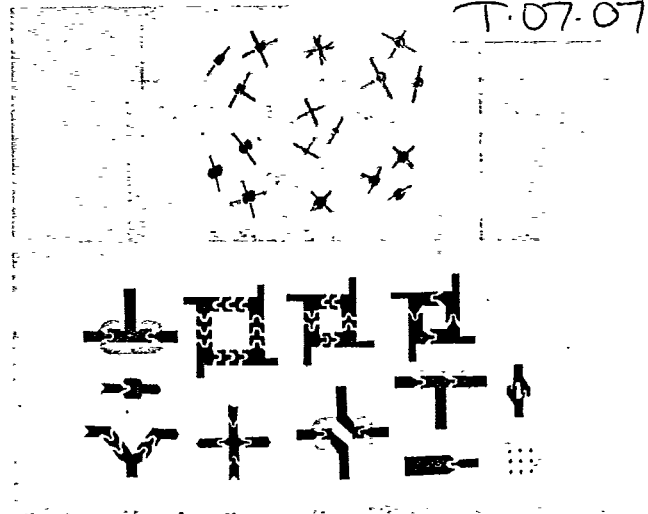


Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

Features

- Ideal for MIC
- Low 1/f Noise
- Low Intermodulation Distortion
- Low Turn On
- Hermetically Sealed Packages



Description

Alpha beam-lead and chip Schottky barrier mixer diodes are designed for applications through 40 GHz in Ka-band. The beam-lead design eliminates the problem of bonding to the very small junction area that is characteristic of the low capacitance involved in microwave devices.

Beam-lead Schottky Barrier mixer diodes are made by deposition of a suitable barrier metal on an epitaxial silicon substrate to form the junction. The process and choice of materials result in low series resistance along with a narrow spread of capacitance values for close impedance control.

A variety of forward knees is available, ranging from a low value for low, or starved, local oscillator drive levels to a higher value for high drive, low intermod mixer applications.

The beam-lead diodes are available in a wide range of packages as shown. They may also be mounted on the customer's circuit or on other substrate configurations. For those customers who prefer chip and wire for their MIC work, Alpha can supply a complete line of bondable chips. Capacitance ranges and series resistances are comparable with the packaged devices that are available through Ka-band. The unmounted diodes are especially well suited for use in microwave integrated circuits. The mounted devices can be easily inserted as hybrid elements in stripline, microstrip and other such circuitry.

Applications

Beam-lead and chip Schottky barrier diodes are categorized by noise figure for mixer applications in four frequency ranges: S, X, Ku and Ka-bands. However, they can also be used as modulators, high speed switches and low power limiters.

RF parameters, capacitance and breakdown voltage on chips and beam-lead diodes are tested on a sample basis, while production testing consists of series resistance and forward voltage measurements. A separate data sheet in this section describes beam-lead and chip diodes that are optimized for detector applications.

Several types of semiconductor-barrier metal systems are available, thus allowing proper selection for optimum mixer design. For most applications the N-type silicon, low drive types are preferable, especially for starved L.O. mixers. For doppler mixers, motion detectors or applications requiring low intermodulation products, the N-type silicon, high drive types are most desirable.

Beam-lead diodes are ideally suited for balanced mixers, since they exhibit low parasitics and are extremely uniform. A typical V_f vs I_f curve is shown in Figure 1.

Typical noise figure vs L.O. drive is shown in Figure 2 for single N-type, low drive diode types.

See Sections 2 and 7 for Application Notes:

- 80800 Mixer and Detector Diodes
- 80850 Handling Precautions for Schottky Barrier and Point Contact Mixer and Detector Diodes
- 80000 Bonding Methods: Diode Chips, Beam-Lead Diodes and Capacitors

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Band	Frequencies (GHz)
S	2 to 4
C	4 to 8
X	8.2 to 12.4
Ku	12.4 to 18.0

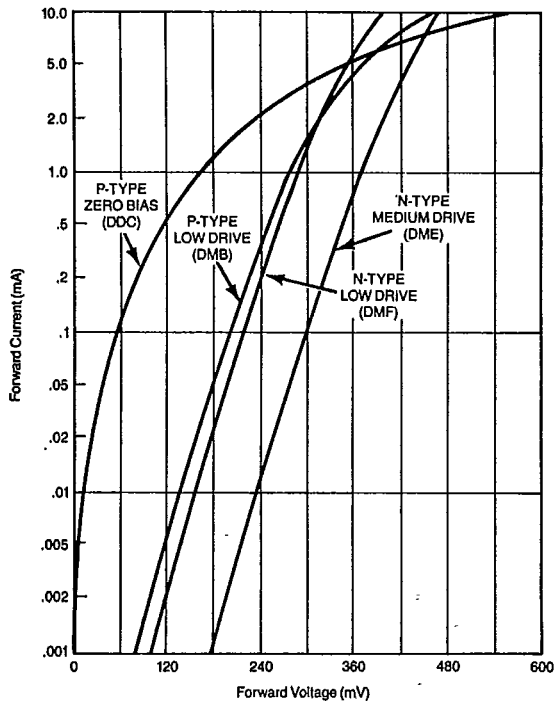


Figure 1a. Typical Forward DC Characteristic Curves - Voltage vs. Current

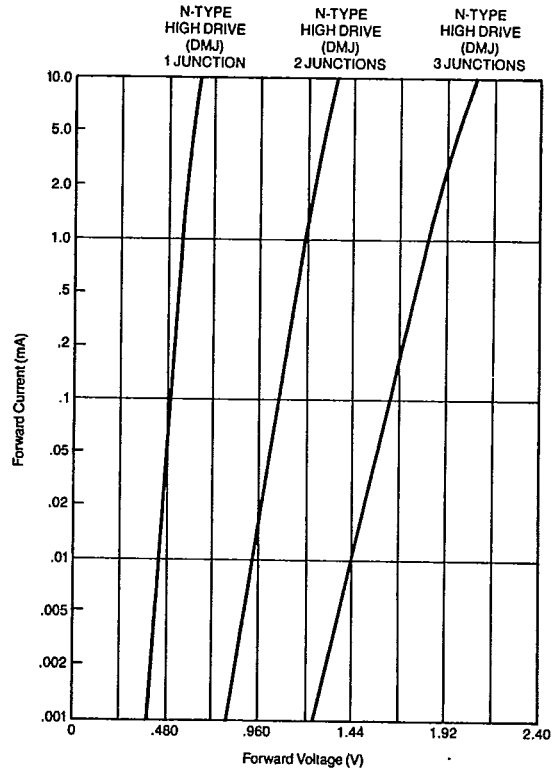


Figure 1b. Typical Forward DC Characteristic Curves - Voltage vs. Current

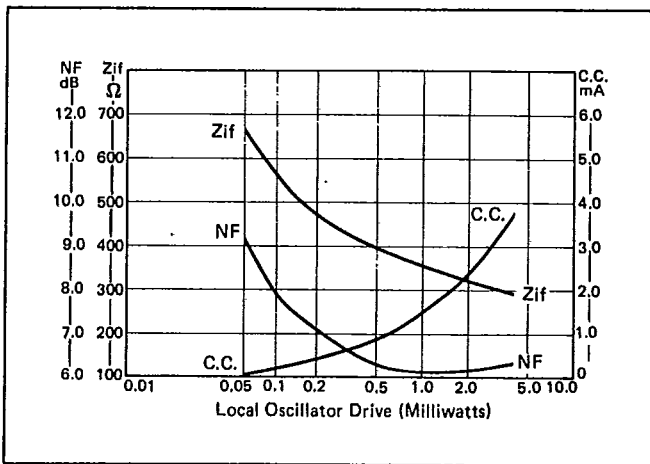


Figure 2. Typical X-Band Low Drive Mixer Diode -- RF Parameters vs. Local Oscillator Drive

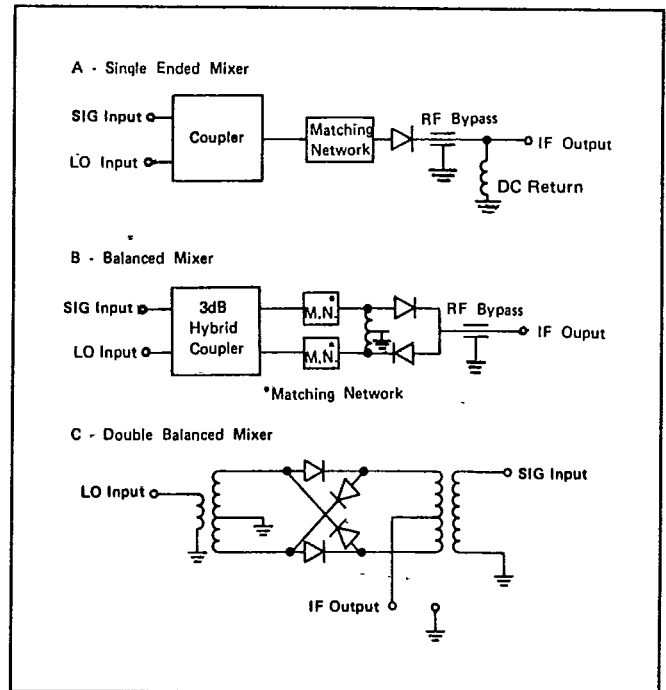
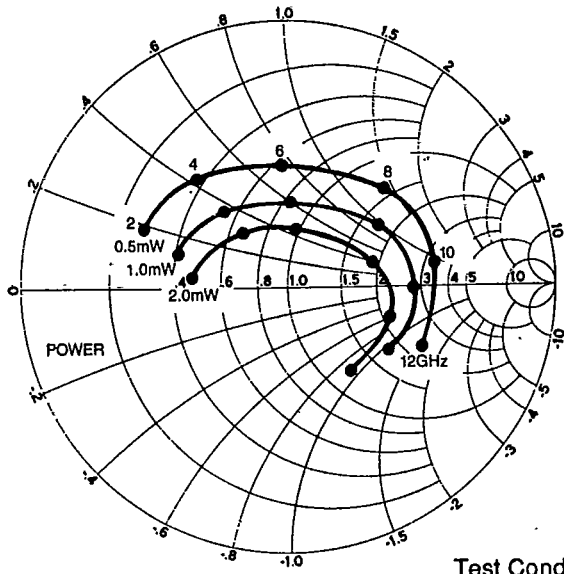


Figure 3. Typical Mixer Circuits

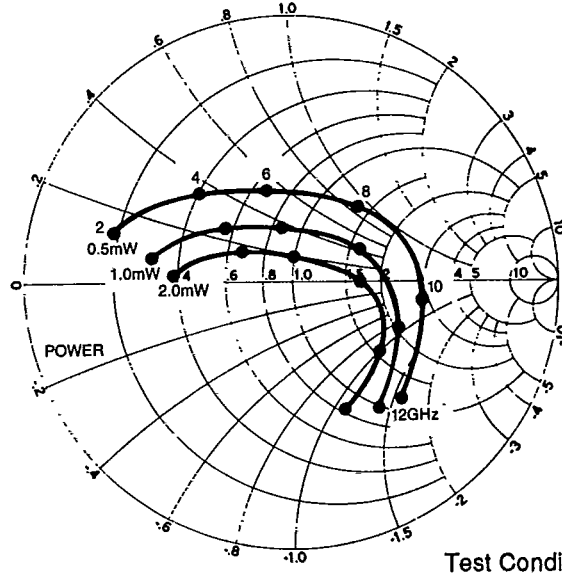
Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07



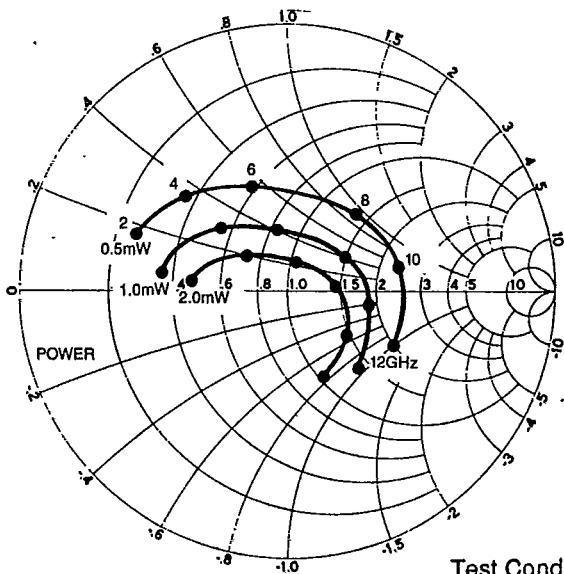
Test Conditions
 $R_L = 10$ ohms

Typical DMB6780
Low Drive X-Band Mixer Diode
Admittance Characteristics



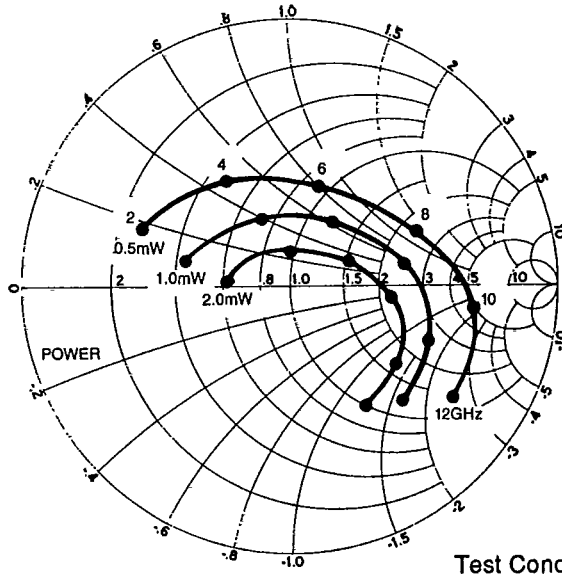
Test Conditions
 $R_L = 10$ ohms

Typical DMB3000
Low Drive X-Band Mixer Diode
Admittance Characteristics



Test Conditions
 $R_L = 10$ ohms

Typical DMB3003
Low Drive X-Band Mixer Diode
Admittance Characteristics

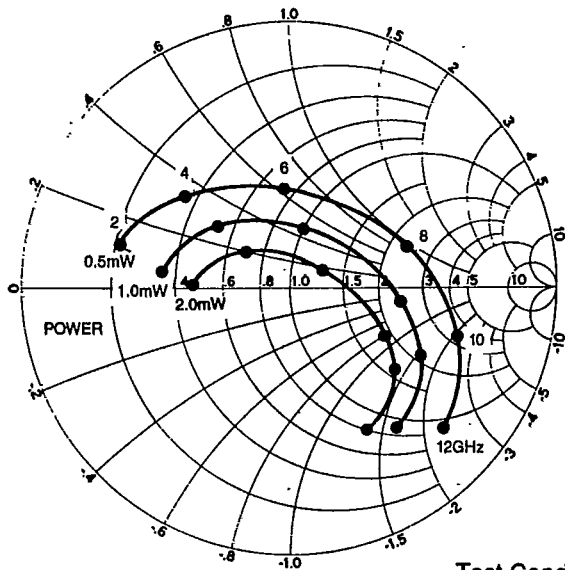


Test Conditions
 $R_L = 10$ ohms

Typical DMB5827
Low Drive X-Band Mixer Diode
Admittance Characteristics

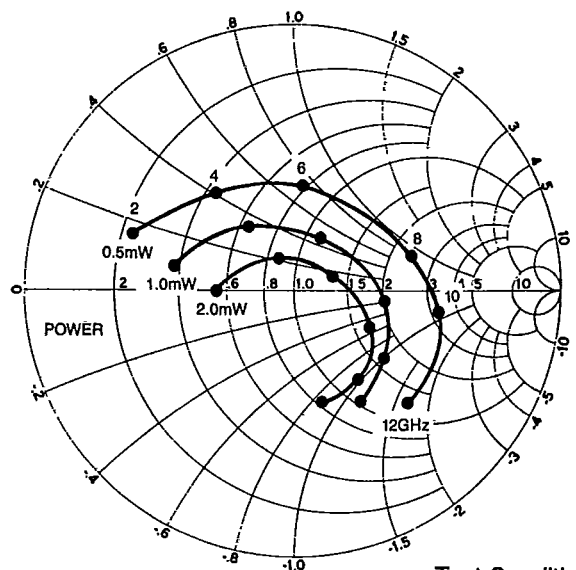
Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07



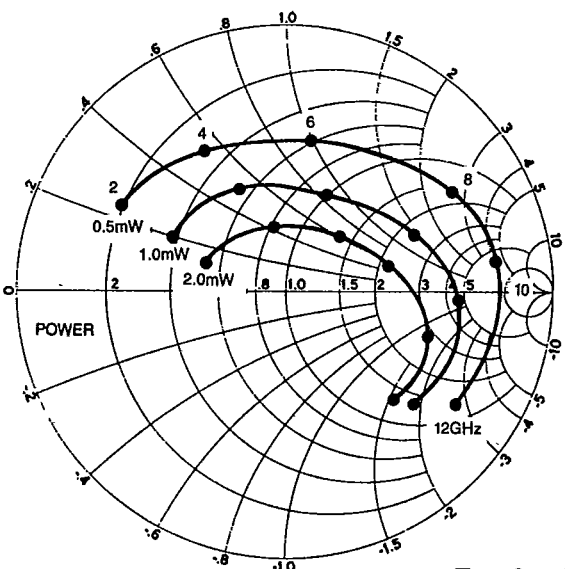
Test Conditions
 $R_L = 10$ ohms

Typical DMB3068
Low Drive X-Band Mixer Diode
Admittance Characteristics



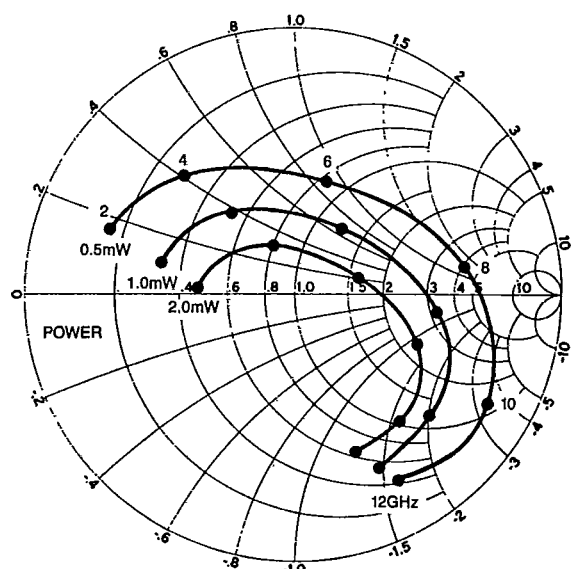
Test Conditions
 $R_L = 10$ ohms

Typical DMF3064
Low Drive X-Band Mixer Diode
Admittance Characteristics



Test Conditions
 $R_L = 10$ ohms

Typical DMB3055
Medium Drive X-Band Mixer Diode
Admittance Characteristics

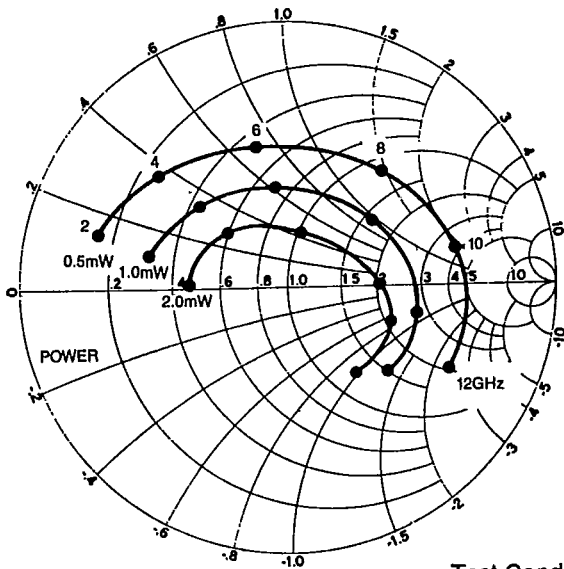


Test Conditions
 $R_L = 10$ ohms

Typical DMB3057
Medium Drive X-Band Mixer Diode
Admittance Characteristics

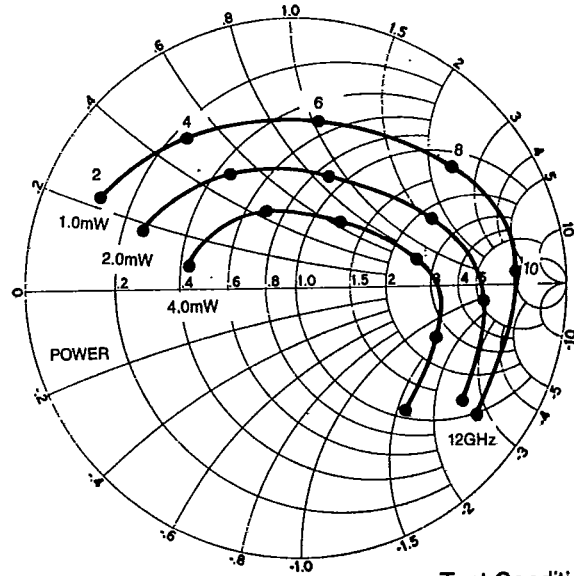
Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07



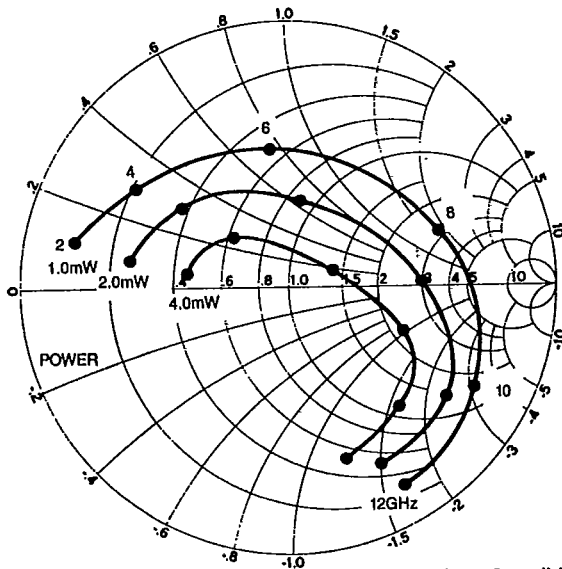
Test Conditions
 $R_L = 10$ ohms

Typical DME3125
Medium Drive X-Band Mixer Diode
Admittance Characteristics



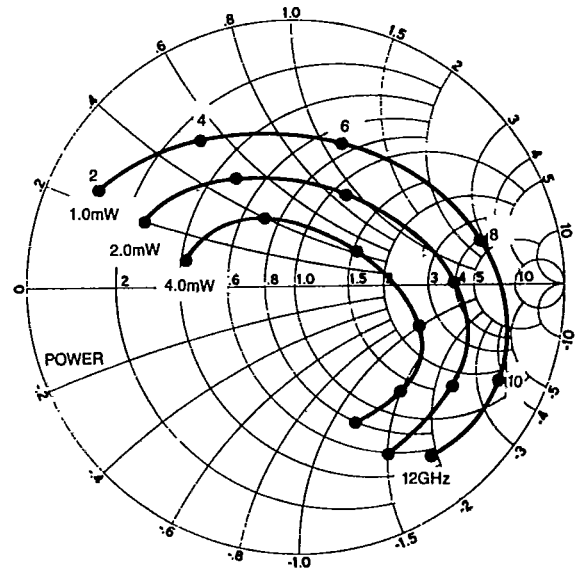
Test Conditions
 $R_L = 10$ ohms

Typical DMJ6787
High Drive X-Band Mixer Diode
Admittance Characteristics



Test Conditions
 $R_L = 10$ ohms

Typical DMJ3151
High Drive X-Band Mixer Diode
Admittance Characteristics



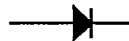
Test Conditions
 $R_L = 10$ ohms

Typical DMJ3154
High Drive X-Band Mixer Diode
Admittance Characteristics

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Singles, N-Type, Low Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	225	240	250	290	250	
			Max.	350	290	350	350	325	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.	2.0	2.0	2.0	2.0	3.0	
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	174-011		DMF5817-000	DMF5818-000	DMF5600-000	**			
	356-011				DMF3344-000				
Packaged Non-Hermetic	130-011	DMF3953-000	DMF5845-000	DMF5827-000	DMF6022-000	**	DMF3445-000		
	295-011		DMF3175-000	DMF3068-000	DMF3069-000				
	313-011		DMF3355-000						
	460-011		**	DMF3400-000	DMF3402-000				
	462-011		**	DMF3401-000	DMF3403-000				
	464-011		**	**	DMF3444-000				
484-011	**	**							
Packaged Hermetic	325-011		DMF5079-000	DMF4035-000	DMF3065-000				
	364-011		**	**	**				
	404-011		**	DMF3222-000	**				

Notes:

** Call factory for part number.

Beam-Lead Singles, N-Type, Medium Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	275	300	325	350	325	
			Max.	400	400	425	450	450	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.	3.0	3.0	3.0	3.0	3.0	
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	174-011		DME3127-000	DME6957-000	DME6507-000	**			
	356-011				DME3333-000				
Packaged Non-Hermetic	130-011	DME3955-000	DME3128-000	DME3055-000	DME3056-000	**	DME3434-000		
	295-011		**	DME3057-000	DME3058-000				
	313-011		**	**					
	460-011		**	**	DME3409-000				
	462-011		**	DME3408-000	DME3410-000				
	464-011		**	**	DME3433-000				
484-011	**	**							
Packaged Hermetic	325-011		DME3006-000	DME3005-000	DME3126-000				
	364-011			DME3125-000					
	404-011			DME3340-000					

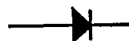
Notes:

** Call factory for part number.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Singles, N-Type, High Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	500	550	550	600	600	
			Max.	600	625	650	750	750	
C _J	V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.	4.0	4.0	5.0	5.0	5.0	
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	174-011				DMJ5034-000	DMJ6777-000	DMJ6778-000	**	
Packaged Non-Hermetic	130-011			DMJ3957-000	DMJ6784-000	DMJ6786-000	DMJ6670-000	**	DMJ3440-000
	295-011				**	DMJ3151-000	DMJ3152-000		
	313-011				**				
	460-011				DMJ3414-000	DMJ3415-000	DMJ3417-000		
	462-011				**	DMJ3416-000	DMJ3418-000		
464-011			**	**	DMJ3439-000				
484-011			**	**	**				
Packaged Hermetic	325-011				DMJ6785-000	DMJ6789-000	DMJ3155-000	**	
	364-011			**	**	DMJ3154-000	**	**	
	404-011			**	**	**	**	**	

Notes:

** Call factory for part number.



Beam-Lead Series Pairs, N-Type, Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	225	240	250	290	250	
			Max.	350	290	300	350	325	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.	2.0	2.0	2.0	2.0	3.0	
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-012				DMF5835-000	DMF5819-000	DMF4788-000	**	
Packaged Non-Hermetic	131-012			DMF3954-000	DMF5846-000	DMF6460-000	DMF6459-000	**	DMF3430-000
	295-012				DMF3215-000	DMF3066-000	DMF6554-000		
	313-012				DMF3347-000	**	**		
	462-012				**	**	DMF3446-000		
	464-012				**	**	DMF3909-000		
484-012			**	**	**				
Packaged Hermetic	325-012				DMF6576-000	DMF6704-000	DMF4734-000	**	
	364-012			**	**	DMF4526-000	**	**	
	404-012			**	**	DMF3558-000	**	**	

Notes:

** Call factory for part number.

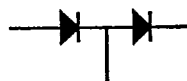
Matching Criteria:

ΔV_F @ 1mA = 10mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Series Pairs, N-Type, Medium Drive



(T_A=25°C)

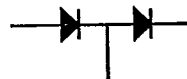
				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		300	325	325	350	
			Max.		400	425	450	450	
C _J	0V 1MHz	pF	Min.		.30	.15	.05	--	
			Max.		.50	.30	.15	.10	
R _s	10 mA	Ω	Max.		4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.		3.0	3.0	3.0	3.0	
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.		6.0	6.0	6.5	7.5	
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-012				DME3050-000	DME3051-000	DME6553-000	**	
Packaged Non-Hermetic	131-012				DME3012-000	DME3013-000	DME3014-000		
	295-012		**		**	DME6569-000	DME3054-000		
	313-012		**		DME3366-000	**	**		
	461-012		**		**	**	DME3435-000	DME3446-000	
	464-012		**		**	**			
484-012		**		**	**				
Packaged Hermetic	325-012				DME3021-000	DME3022-000			
	364-012				**	DME3025-000	DME3026-000		
	404-012				**	**	**		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.



Beam-Lead Series Pairs, N-Type, High Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	500	550	550	600	600	
			Max.	600	625	650	750	750	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B	10μA	V	Min.	4.0	4.0	5.0	5.0	5.0	
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-012				DMJ3092-000	DMJ3093-000	DMJ4705-000	**	
Packaged Non-Hermetic	131-012				DMJ6531-000	DMJ4317-000	DMJ3081-000		
	295-012				**	DMJ3101-000	DMJ3102-000		
	313-012		DMJ3959-000		DMJ3365-000	**	**		
	461-012		**		**	**	DMJ3441-000	DMJ3442-000	
	464-012		**		**	**	**		
484-012		**		**	**	**			
Packaged Hermetic	325-012				DMJ4783-000	DMJ3090-000			
	364-012				**	DMJ4760-000	DMJ3089-000		
	404-012				**	**	**		

Notes:

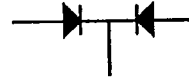
** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07



Beam-Lead Common Cathode Pairs, N-Type, Low Drive

(T_A=25°C)

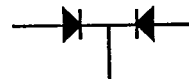
				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		240	250	290		
			Max.		290	300	350		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		2.0	2.0	2.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-013				DMF3182-000	DMF3183-000	DMF3184-000		
Packaged Non-Hermetic	131-013				DMF4308-000	DMF3323-000	DMF3314-000		
	295-013					DMF3321-000	**		
	313-013				DMF3356-000	**	**		
	461-013				**	**	**		
	464-013				**	**	**		
Packaged Hermetic	484-013				**	**	**		
	325-013				**	**	**		
	364-013				**	DMF3264-000	**		
404-013									

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.



Beam-Lead Common Cathode Pairs, N-Type, Medium Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		300	325	350		
			Max.		400	425	450		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		3.0	3.0	3.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-013				DME3205-000	DME3206-000	DME3207-000		
Packaged Non-Hermetic	131-013				**	**	**		
	295-013				**	**	**		
	313-013				**	**	**		
	461-013				**	**	**		
	464-013				**	**	**		
Packaged Hermetic	484-013				**	**	**		
	325-013				**	**	**		
	364-013				**	**	**		
404-013									

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Common Cathode Pairs, N-Type, High Drive



(T_A=25°C)

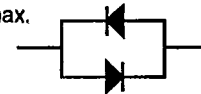
				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		550	550	600		
			Max.		625	650	750		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		4.0	5.0	5.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-013				DMJ3208-000	DMJ3209-000	DMJ3210-000		
Packaged Non-Hermetic	131-013				DMJ4715-000		**		
	295-013				**	**	**		
	313-013				**	**	**		
	461-013				**	**	**		
	464-013				**	**	**		
Packaged Hermetic	325-011				**	**	**		
	364-011				**	DMJ3328-000	**		
	404-013				**	**	**		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.



(T_A=25°C)

Beam-Lead Anti Parallel Pairs, N-Type, Low Drive

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		240	250	290		
			Max.		290	300	350		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		2.0	2.0	2.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	396-025				DMF3185-000	DMF3186-000	DMF3187-000		
Packaged Non-Hermetic	130-025				DMF3226-000	DMF3245-000	DMF3286-000		
	295-025				DMF3230-000	DMF3289-000	DMF3290-000		
	484-025				**	**	**		
Packaged Hermetic	325-025				DMF3291-000	DMF3292-000	**		
	364-025				**	**	**		
	404-025				**	**	**		

Notes:

** Call factory for part number.

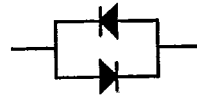
V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 10mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

Beam-Lead Anti Parallel Pairs, N-Type, Medium Drive



T-07-07
(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.		300 400	325 425	350 450		
C _J	0V 1MHz	pF	Min. Max.		.30 .50	.15 .30	.05 .15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B ¹	10μA	V	Min.		3.0	3.0	3.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	396-025				DME3282-000	DME3283-000	DME3284-000		
Packaged Non-Hermetic	130-025				DME3270-000	DME3271-000	DME3272-000		
	295-025				DME3275-000	DME3276-000	DME3277-000		
	484-025				**	**			
Packaged Hermetic	325-025				DME3278-000	DME3279-000			
	364-025					**	**		
	404-025					**	**		

Notes:

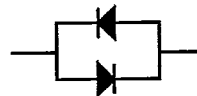
** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 10 mV max.

Beam-Lead Anti Parallel Pairs, N-Type, High Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.		550 625	550 650	600 750		
C _J	0V 1MHz	pF	Min. Max.		.30 .50	.15 .30	.05 .15		
R _s	10 mA	Ω	Max.		4.0	.70	12.0		
V _B ¹	10μA	V	Min.		4.0	4.0	5.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	396-025				DMJ3303-000	DMJ3303-000	DMJ3246-000		
Packaged Non-Hermetic	130-025				DMJ3294-000	DMJ3295-000	DMJ3296-000		
	295-025				DMJ3297-000	DMJ3298-000	DMJ3299-000		
	461-025				DMJ3245-000	**	**		
	484-025				**	**			
Packaged Hermetic	325-025				DMJ3300-000	DMJ3301-000			
	364-025					**	**		
	404-025				**	**	**		

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 10 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Split Pairs, N-Type, Low Drive

 $(T_A=25^\circ\text{C})$

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V_F	1 mA	mV	Min.		240	250	290		
			Max.		290	300	350		
C_j	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R_s	10 mA	Ω	Max.		4.0	7.0	12.0		
V_B	10 μ A	V	Min.		2.0	2.0	2.0		
NF(ssb)	LO=1.0mW $N_f=1.5\text{dB}$	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	408-008				DMF3196-000	DMF3197-000	DMF3198-000		
Packaged Non-Hermetic	132-008				DMF4040-000	DMF5828-000	DMF6023-000		
	295-008				**	**	DMF3073-000		
Packaged Hermetic	325-008				DMF3070-000	DMF3071-000			
	364-008					DMF4713-000	DMF3062-000		
	404-008				**	**	**		

Notes:

** Call factory for part number.

Matching Criteria:

 $\Delta V_F @ 1\text{mA} = 10\text{ mV max.}$

Beam-Lead Split Pairs, N-Type, Medium Drive

 $(T_A=25^\circ\text{C})$

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V_F	1 mA	mV	Min.		300	325	350		
			Max.		400	425	450		
C_j	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R_s	10 mA	Ω	Max.		4.0	7.0	12.0		
V_B	10 μ A	V	Min.		3.0	3.0	3.0		
NF(ssb)	LO=1.0mW $N_f=1.5\text{dB}$	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	408-008				DME3199-000	DME3200-000	DME3201-000		
Packaged Non-Hermetic	132-008				DME3009-000	DME3010-000	DME3011-000		
	295-008				**	DME3015-000	DME3016-000		
Packaged Hermetic	325-008				DME3019-000	DME3020-000			
	364-008					DME3023-000	DME3024-000		
	404-008				**	DME3224-000	**		

Notes:

** Call factory for part number.

Matching Criteria:

 $\Delta V_F @ 1\text{mA} = 10\text{ mV max.}$

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

Beam-Lead Split Pairs, N-Type, High Drive



T-07-07

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.		550 625	550 650	600 750		
C _J	0V 1MHz	pF	Min. Max.		.30 .50	.15 .30	.05 .15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		4.0	5.0	5.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	408-008				DMJ3202-000	DMJ3203-000	DMJ3204-000		
Packaged Non-Hermetic	132-008 295-008				DMJ3095-000 **	DMJ3096-000 DMJ3099-000	DMJ3097-000 DMJ3100-000		
Packaged Hermetic	325-008 364-008 404-008				DMJ3098-000 **	DMJ3105-000 DMJ3106-000 **	DMJ3107-000 **		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 10 mV max.

Beam-Lead 4 Diode Pairs, N-Type, Very High Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.			1100 1300	1200 1500		
C _J	0V 1MHz	pF	Min. Max.			.15 .30	.05 .15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B	10μA	V	Min.			10.0	10.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	407-029					DMJ3180-000	DMJ3181-000		
Packaged Non-Hermetic	131-029 295-029					** DMJ3979-000	** DMJ3981-000		
Packaged Hermetic	364-029 404-029					DMJ3980-000 **	DMJ3982-000 **		

Notes:

** Call factory for part number.

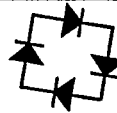
Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Ring Quads, N-Type, Low Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	225	240	250	290	250	
			Max.	350	290	300	350	325	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	13.0	
V _{BI} ¹	10μA	V	Min.	2.0	2.0	2.0	2.0	2.0	
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-002		DMF6829-000	DMF4011-000	DMF4012-000				
Packaged Non-Hermetic	132-002	DMF4000-000	DMF5847-000	DMF5829-000	DMF6395-000				
	295-002		DMF4549-000	DMF4745-000	DMF4574-000				
	461-002		DMF3404-000	DMF3405-000	DMF3406-000				
	464-002	DMF4792-000	**	DMF3918-000	DMF3431-000	DMF3383-000			
	476-002 484-002		**	**	**	**			
Packaged Hermetic	325-002		DMF4059-000	DMF5080-000					
	364-002		DMF3244-000	DMF3074-000	DMF3075-000				
	404-002		**	**	**				

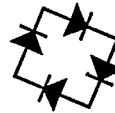
Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.



Beam-Lead Ring Quads, N-Type, Medium Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	275	300	325	350	325	
			Max.	400	400	425	450	450	
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05	--	
			Max.	1.2	.50	.30	.15	.10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B ¹	10μA	V	Min.	3.0	3.0	3.0	3.0	3.0	
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-002		DME6561-000	DME6562-000	DME6563-000				
Packaged Non-Hermetic	132-002		DME6549-000	DME4756-000	DME3039-000				
	295-002		DME3043-000	DME4750-000	DME4541-000				
	461-002		DME3411-000	DME3412-000	DME3413-000				
	464-002	DME3027-000	**	**	DME3437-000	DME3384-000			
	476-002 484-002		**	**	**	**			
Packaged Hermetic	325-002		DME3044-000	DME6557-000					
	364-002		**	DME4790-000	DME3047-000				
	404-002		**	**	**				

Notes:

** Call factory for part number.

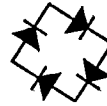
1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

Beam-Lead Ring Quads, N-Type, High Drive



T-07-07
(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.	500 600	550 625	550 650	600 750	600 750	
C _J	0V 1MHz	pF	Min. Max.	-- 1.2	.30 .50	.15 .30	.05 .15	-- .10	
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0	16.0	
V _B ¹	10μA	V	Min.	4.0	4.0	5.0	5.0	5.0	
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5	7.5	
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-002				DMJ4502-000	DMJ6990-000	DMJ6667-000		
Packaged Non-Hermetic	132-002 295-002 461-002 464-002 476-002 484-002			DMJ3960-000	DMJ4007-000 DMJ3086-000 DMJ3419-000 DMJ3397-000 **	DMJ6788-000 DMJ3087-000 DMJ3420-000 **	DMJ3082-000 DMJ4397-000 DMJ3421-000 DMJ3443-000 **	DMJ3385-000	
Packaged Hermetic	325-002 364-002 404-002				DMJ6668-000 **	DMJ6669-000 DMJ3108-000 **	DMJ3109-000 **		

Notes:

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

** Call factory for part number.



Beam-Lead Bridge Quads, N-Type, Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.	325 350	240 290	250 300	290 350		
C _J	0V 1MHz	pF	Min. Max.	-- 1.2	.30 .50	.15 .30	.05 .15		
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0		
V _B	10μA	V	Min.	2.0	2.0	2.0	2.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-004				DMF3076-000	DMF3077-000	DMF3078-000		
Packaged Non-Hermetic	132-004 295-004 461-004 464-004 476-004 484-004			DMF3059-000 **	DMF5848-000 DMF3067-000 ** **	DMF6288-000 DMF6558-000 ** **	DMF6298-000 DMF6574-000 ** **		
Packaged Hermetic	325-004 364-004 404-004				DMF3063-000 **	DMF4352-000 DMF3079-000 **	DMF3080-000 **		

Notes:

Matching Criteria:

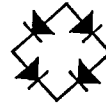
ΔV_F @ 1mA = 15 mV max.

** Call factory for part number.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Bridge Quads, N-Type, Medium Drive



(T_A=25°C)

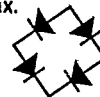
				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	275	300	325	350		
			Max.	400	400	425	450		
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05		
			Max.	1.2	.50	.30	.15		
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0		
V _B	10μA	V	Min.	3.0	3.0	3.0	3.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5		
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-004			DME3029-000	DME3030-000	DME3031-000			
Packaged Non-Hermetic	132-004	DME3042-000	DME3040-000	DME4370-000	DME3041-000				
	295-004		DME3052-000	DME6567-000	DME3053-000				
	461-004	**	**	**	**				
	464-004	**	**	**	**				
	476-004	**	**	**	**				
Packaged Hermetic	484-004	**	**	**	**				
	325-004		DME3032-000	DME3033-000					
	364-004		**	DME3036-000	DME3037-000				
	404-004			**	**				

Notes:

** Call factory for part number.

Matching Criteria:

$\Delta V_F @ 1mA = 15 \text{ mV max.}$



Beam-Lead Bridge Quads, N-Type, High Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	500	550	550	600		
			Max.	600	625	650	750		
C _J	0V 1MHz	pF	Min.	--	.30	.15	.05		
			Max.	1.2	.50	.30	.15		
R _s	10 mA	Ω	Max.	4.0	4.0	7.0	12.0		
V _B	10μA	V	Min.	4.0	4.0	5.0	5.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.	6.0	6.0	6.0	6.5		
Style	Outline Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-004			DMJ3412-000	DMJ3088-000	DMJ4768-000			
Packaged Non-Hermetic	132-004	DMJ3961-000	DMJ6575-000	DMJ4313-000	DMJ3083-000				
	295-004		DMJ3114-000	DMJ3115-000	DMJ3116-000				
	461-004	**	DMJ3422-000	DMJ3423-000	DMJ3424-000				
	464-004	**	**	**	**				
	476-004	**	**	**	**				
Packaged Hermetic	484-004	**	**	**	**				
	325-004		DMJ3120-000	DMJ3121-000					
	364-004		**	DMJ3122-000	DMJ3123-000				
	404-004			**	**				

Notes:

** Call factory for part number.

Matching Criteria:

$\Delta V_F @ 1mA = 15 \text{ mV max.}$

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Crossover Ring Quads, N-Type, Low Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	225	240	250			
			Max.	350	290	300			
C _J	0V 1MHz	pF	Min.	—	.30	.15			
			Max.	1.2	.50	.30			
R _s	10 mA	Ω	Max.	4.0	4.0	7.0			
V _B ¹	10μA	V	Min.		2.0	2.0			
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.5	6.5	7.5			
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	425-010				DMF3962-000	DMF3965-000			
Packaged Non-Hermetic	132-010			DMF3239-000	DMF4384-000	DMF6555-000			
	295-010				**	DMF3966-000			
	461-010				DMF3429-000	**			
	476-010								
Packaged Hermetic	325-010			DMF3160-000	**	**			
	364-010				**	**			
	404-010				**	**			

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Beam-Lead Crossover Ring Quads, N-Type, Medium Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		300	325			
			Max.		400	425			
C _J	0V 1MHz	pF	Min.		.30	.15			
			Max.		.50	.30			
R _s	10 mA	Ω	Max.		4.0	7.0			
V _B ¹	10μA	V	Min.	3.0	3.0	3.0			
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.	6.5	6.5	7.5			
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	425-010				DME3963-000	DME3967-000			
Packaged Non-Hermetic	132-010			**	DME3028-000	DME3968-000			
	295-010				**	**			
	461-010				**	**			
	476-010								
Packaged Hermetic	325-010			DME3360-000	**	**			
	364-010				**	DME3176-000			
	404-010				**	**			

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Crossover Ring Quads, N-Type, High Drive

(T_A=25°C)

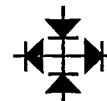
				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.	500	550	550			
			Max.	600	625	650			
C _J	0V 1MHz	pF	Min.	--	.30	.15			
			Max.	1.2	.50	.30			
R _s	10 mA	Ω	Max.	4.0	4.0	7.0			
V _B ^I	10μA	V	Min.	4.0	4.0	5.0			
NF(ssb)	LO=1.0mW N _p =1.5dB	dB	Max.	6.0	6.0	6.0			
Style	Outline Number		Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	
Unmounted	425-010			DMJ3964-000	DMJ3969-000				
Packaged Non-Hermetic	132-010			DMJ6708-000	**				
	295-010			**	DMJ3970-000				
	461-010			**	**				
	476-010		DMJ3958-000	DMJ3378-000	**				
Packaged Hermetic	325-010			**	**				
	364-010			**	**				
	404-010			**	**				

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.**Matching Criteria:**ΔV_F @ 1mA = 15 mV max.

Beam-Lead Star Quad, N-Type, Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		240	250	290		
			Max.		290	300	350		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		2.0	2.0	2.0		
NF(ssb)	LO=1.0mW N _p =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number		Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	
Unmounted	397-034				DMF3138-000	DMF3189-000	DMF3190-000		
Packaged Hermetic	364-034				DMF3251-000	DMF3252-000	DMF3253-000		

Notes:**Matching Criteria:**ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Star Quad, N-Type, Medium Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		300	325	350		
			Max.		400	425	450		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		3.0	3.0	3.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	397-034				DME3191-000	DME3192-000	DME3178-000		
Packaged Hermetic	364-034				DME3254-000	DME3255-000	DME3256-000		

Notes:

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Beam-Lead Star Quad, N-Type, High Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.		550	550	600		
			Max.		625	650	750		
C _J	0V 1MHz	pF	Min.		.30	.15	.05		
			Max.		.50	.30	.15		
R _s	10 mA	Ω	Max.		4.0	7.0	12.0		
V _B	10μA	V	Min.		4.0	5.0	5.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.		6.0	6.0	6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	397-034				DMJ3193-000	DMJ3194-000	DMJ3195-000		
Packaged Hermetic	364-034				DMJ3257-000	DMJ3258-000	DMJ3259-000		

Notes:

Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Octoquad Ring, N-Type, Low Drive

(T_A = 25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			500	580		
			Max.			600	700		
C _J	0V 1MHz	pF	Min.			.15	.05		
			Max.			.30	.15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B ¹	10μA	V	Min.			4.0	4.0		
NF(ssb)	LO=1.0mW N _p =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-020					DMF3287-000	DMF3288-000		
Packaged Non-Hermetic	132-020					DMF3242-000	**		
	295-020					DMF3971-000	DMF3975-000		
Packaged Hermetic	364-020					DMF3972-000	DMF3976-000		

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.

Beam-Lead Octoquad Ring, N-Type, Medium Drive

(T_A = 25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			650	700		
			Max.			850	900		
C _J	0V 1MHz	pF	Min.			.15	.05		
			Max.			.30	.15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B ¹	10μA	V	Min.			6.0	6.0		
NF(ssb)	LO=1.0mW N _p =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-020					DME3273-000	DME3274-000		
Packaged Non-Hermetic	132-020					DME4399-000	**		
	295-020					DME3973-000	DME3375-000		
Packaged Hermetic	325-020					DME3346-000			
	364-020					DME3974-000	DME3978-000		

Notes:

** Call factory for part number.

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Octoquad Ring, N-Type, High Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			1100	1200		
			Max.			1300	1500		
C _J	0V 1MHz	pF	Min.			.15	.05		
			Max.			.30	.15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B ¹	10μA	V	Min.			10.0	10.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-020					DMJ4759-000	DMJ4771-000		
Packaged Non-Hermetic	132-020					DMJ4708-000	DMJ3091-000		
	295-020					DMJ3094-000	DMJ4747-000		
	461-020					DMJ3426-000	DMJ3427-000		
Packaged Hermetic	325-020					DMJ4394-000			
	364-020					DMJ3112-000	DMJ3113-000		

Notes:

1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.



Beam-Lead Octobridge, N-Type, Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			500	580		
			Max.			600	700		
C _J	0V 1MHz	pF	Min.			.15	.05		
			Max.			.30	.15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B	10μA	V	Min.			4.0	4.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-042					**	**		
Packaged Non-Hermetic	132-042					**	**		
	295-042					DMF3947-000	DMF3948-000		
	461-042					**	**		
Packaged Hermetic	325-042					**	**		
	374-042					**	**		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Octobridge, N-Type, Medium Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			650	700		
			Max.			850	900		
C _J	0V 1MHz	pF	Min.			.15	.05		
			Max.			.30	.15		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B	10μA	V	Min.			6.0	6.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-042					**	**		
Packaged Non-Hermetic	132-042					**	**		
	295-042				DME3949-000	DME3952-000			
	461-042				**	**			
Packaged Hermetic	325-042					**	**		
	364-042					**	**		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.

Beam-Lead Octobridge, N-Type, High Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.			1100	1200		
			Max.			1300	1500		
C _J	0V 1MHz	pF	Min.			.15	.30		
			Max.			.30	.50		
R _s	10 mA	Ω	Max.			14.0	24.0		
V _B	10μA	V	Min.			10.0	10.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			--	--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-042					**	**		
Packaged Non-Hermetic	132-042					**	**		
	295-042				DMJ3319-000	DMJ3950-000			
	461-042				**	**			
Packaged Hermetic	325-042					**	**		
	364-042					DMJ3327-000	**		

Notes:

** Call factory for part number.

Matching Criteria:

ΔV_F @ 1mA = 20 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Duodeca Ring, N-Type, Very High Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.				1800		
			Max.				2250		
C _J	0V 1MHz	pF	Min.				.05		
			Max.				.15		
R _s	10 mA	Ω	Max.				36.0		
V _B ¹	10μA	V	Min.				15.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.				--		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	398-022						DMJ6564-000		
Packaged Non-Hermetic	132-022						DMJ4766-000		
Packaged Hermetic	325-022						DMJ3216-000		

Notes:1. V_B Verification is made on a sample basis due to its configuration.

Matching Criteria:

$$\Delta V_F @ 1\text{mA} = 25\text{ mV max.}$$

Beam-Lead Singles, N-Type, Very Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.				250		
			Max.				300		
C _J	0V 1MHz	pF	Min.				.05		
			Max.				.15		
R _s	10 mA	Ω	Max.				12.0		
V _B	10μA	V	Min.				2.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.				6.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	174-011						DMV3926-000		
Packaged Non-Hermetic	295-011						DMV3930-000		
	460-011						DMV3927-000		
	462-011						DMV3928-000		
	464-011						DMV3929-000		
Packaged Hermetic	364-011						DMV3931-000		

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Series Pair, N-Type, Very Low Drive



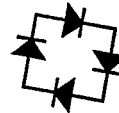
(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.				250		
			Max.				300		
C _J	0V 1MHz	pF	Min.				.05		
			Max.				.15		
R _s	10 mA	Ω	Max.				12.0		
V _B	10μA	V	Min.				2.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.				7.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	378-012						DMV3932-000		
Packaged Non-Hermetic	295-012						DMV3935-000		
	461-012						DMV3933-000		
	464-012						DMV3934-000		
Packaged Hermetic	325-012						DMV3936-000		

Notes:

Matching Criteria:

ΔV_F @ 1mA = 10mV max.



Beam-Lead Ring Quad, N-Type, Very Low Drive

(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min.				250		
			Max.				300		
C _J	0V 1MHz	pF	Min.				.05		
			Max.				.15		
R _s	10 mA	Ω	Max.				12.0		
V _B ¹	10μA	V	Min.				2.0		
NF(ssb)	LO=1.0mW N _r =1.5dB	dB	Max.				7.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-002						DMV3937-000		
Packaged Non-Hermetic	295-002						DMV3940-000		
	461-002						DMV3938-000		
	464-002						DMV3939-000		
Packaged Hermetic	364-002						DMV3941-000		

Notes:

1. V_B Verification is made on a sample basis due to its configuration.

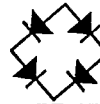
Matching Criteria:

ΔV_F @ 1mA = 15 mV max.

Silicon Beam-Lead and Chip Schottky Barrier Mixer Diodes

T-07-07

Beam-Lead Bridge Quad, N-Type, Very Low Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.				250 300		
C _J	0V 1MHz	pF	Min. Max.				.05 .15		
R _s	10 mA	Ω	Max.				12.0		
V _B	10μA	V	Min.				2.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.				7.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	294-004						DMV3942-000		
Packaged Non-Hermetic	295-004 461-004 464-004						DMV3945-000 DMV3943-000 DMV3944-000		
Packaged Hermetic	364-004						DMV3946-000		

Matching Criteria:
ΔV_F @ 1mA = 15 mV max.

Beam-Lead Singles, P-Type, Low Drive



(T_A=25°C)

				Electrical Characteristics by Frequency Band					
Test	Test Conditions	Units		L	S	X	Ku	K	Ka
V _F	1 mA	mV	Min. Max.			200 300	200 350		
C _J	0V 1MHz	pF	Min. Max.			.15 .30	.05 .15		
R _s	10 mA	Ω	Max.			12.0	16.0		
V _B	10μA	V	Min.			2.0	2.0		
NF(ssb)	LO=1.0mW N _f =1.5dB	dB	Max.			6.5	7.5		
Style	Outline Number			Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Unmounted	174-011					DMB4500-000	DMB4501-000		
Packaged Non-Hermetic	130-011 295-011					DMB6780-000 DMB3000-000	DMB6782-000 DMB3001-000		
Packaged Hermetic	325-011 364-011					DMB6781-000 DMB3003-000	DMB3004-000		