BAT48-40

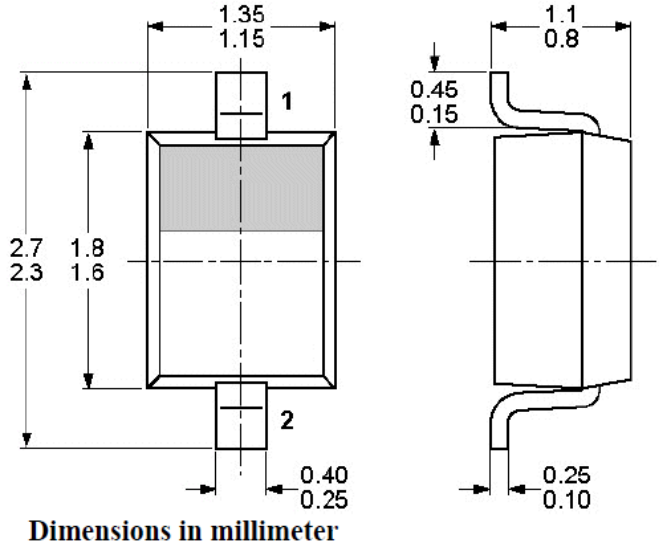
Surface Mount High Current Density Schottky Rectifiers 1.0 Amp 40V

Features

- Guarding protection
- Low forward voltage
- Reverse energy tested
- High current capability
- Extremely low thermal resistance
- RoHS compliant package

Mechanical Data

- Case: SOD-323 Molded plastic
- Epoxy: UL94V-O rate flame retardant
- Lead: Lead Formed for Surface Mount
- Polarity: Color band denotes cathode end
- Mounting position: Any



Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings (Tc=25°C unless otherwise noted)			
Parameter	**Symbol**	**BAT-40**	**Unit**
Maximum repetitive peak reverse voltage	VRRM	40	V
Working peak reverse voltage	VRWM	28	V
Maximum DC blocking voltage	VDC	40	V
Maximum average forward rectified current	IF(AV)	1.0	A
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

Maximum Ratings (Tc=25°C unless otherwise noted)			
Parameter	**Symbol**	**BAT-40**	**Unit**
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	10	A
1pulse/4S t=500us exponent wave		60	

Note:

(1) Mounted on 30 mm x 30 mm Al P.C.B. with 50 mm x 25 mm x 100 mm fin heat sink

(2) Free air, mounted on recommended copper pad area

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Electrical characteristics (Tc=25°C unless otherwise noted)

Parameter		Symbol	Value		Unit
			Typical	Max	
Instantaneous forward voltage at IF=200mA, Tj=25°C		VF	0.35	0.38	V
IF=500mA, Tj=25°C			0.41	0.45	
IF=1.0A, Tj=25°C			0.49	0.53	
IF=200mA, Tj=125°C			0.23	0.25	
IF=500mA, Tj=125°C			0.32	0.35	
IF=1.0A, Tj=125°C			0.44	0.48	
Maximum reverse current per leg	Tj=25°C	IR	100		u'A
at working peak reverse voltage	Tj=125°C		20		m'A

Thermal characteristics (Tc=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Typical thermal resistance (Note 1)	RθJA	88	°C/W
	RθJC	30	°C/W

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

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■RATINGS AND CHARACTERISTIC CURVES

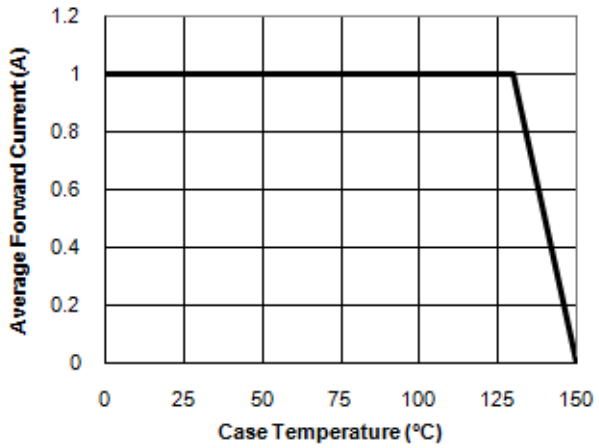

FIG. 1- TYPICAL FORWARD CURRENT DERATING CURVE

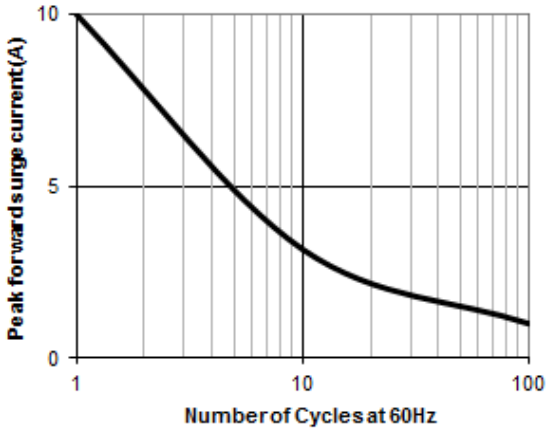

FIG. 2- TYPICAL MAXIMUM NON-REPETIVE SURGE

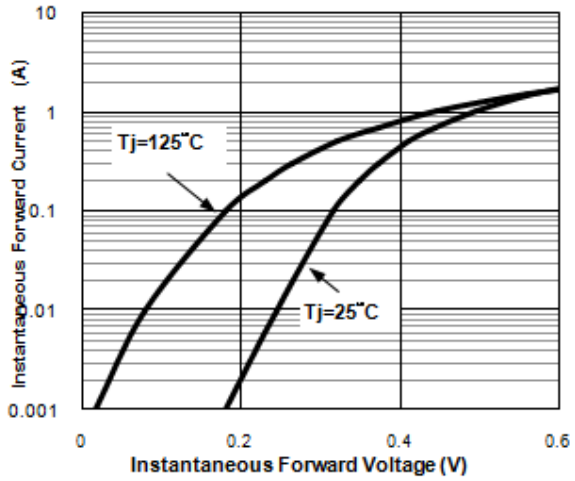

FIG. 3- TYPICAL FORWARD INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

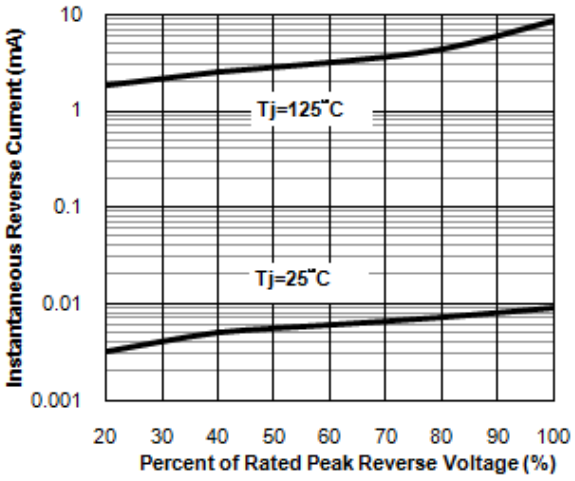

FIG. 4- TYPICAL REVERSE CHARACTERISTICS

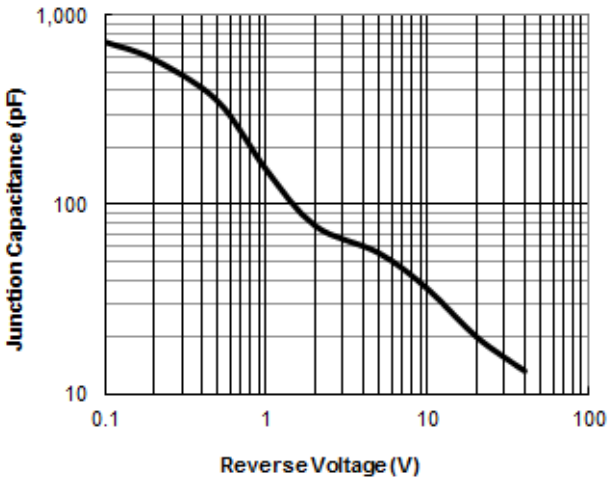

FIG. 5- TYPICAL JUNCTION CAPACITANCE

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