TRANSYS ELECTRONICS LIMITED

MMBTA92

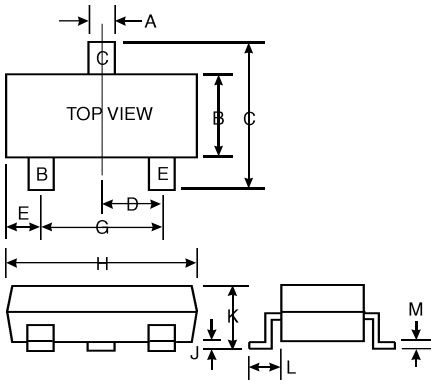
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMBTA42)
- Ideal for Medium Power Amplification and Switching

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: K3R, 2D
- Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		

Maximum Ratings

@ T_A = 25 C unless otherwise specified

Characteristic	Symbol	MMBTA92	Unit
Collector-Base Voltage	V_{CBO}	-300	V
Collector-Emitter Voltage	V_{CEO}	-300	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current (Note 1) (Note 3)	I_C	-100	mA
Power Dissipation (Note 1)	P_d	350	mW
Thermal Resistance, Junction to Ambient (Note 1)	R_{JA}	357	K/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	C

Electrical Characteristics

@ T_A = 25 C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-300		V	I_C = -100 A, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-300		V	I_C = -1.0mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0		V	I_E = -100 A, I_C = 0
Collector Cutoff Current	I_{CBO}		-250	nA	V_{CB} = -200V, I_E = 0
Collector Cutoff Current	I_{EBO}		-100	nA	V_{CE} = -3.0V, I_C = 0
ON CHARACTERISTICS (Note 2)					
DC Current Gain	h_{FE}	25 40 25			I_C = -1.0mA, V_{CE} = -10V I_C = -10mA, V_{CE} = -10V I_C = -30mA, V_{CE} = -10V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		-0.5	V	I_C = -20mA, I_B = -2.0mA
Base- Emitter Saturation Voltage	$V_{BE(SAT)}$		-0.9	V	I_C = -20mA, I_B = -2.0mA
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{cb}		6.0	pF	V_{CB} = -20V, f = 1.0MHz, I_E = 0
Current Gain-Bandwidth Product	f_T	50		MHz	V_{CE} = -20V, I_C = -10mA, f = 100MHz

Notes:
1. Valid provided that terminals are kept at ambient temperature.
2. Pulse test: Pulse width 300 s, duty cycle 2%.
3. When operated within safe operating area constraints.

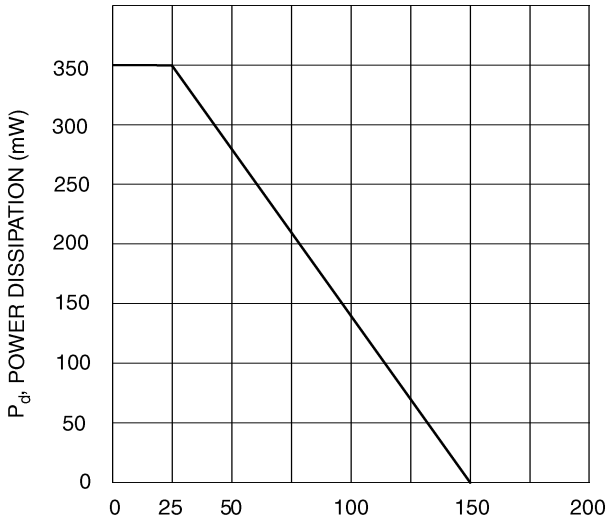


Fig. 1, Max Power Dissipation vs Ambient Temperature