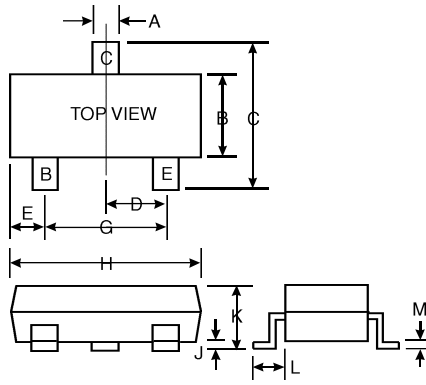


Features

Epitaxial Planar Die Construction
Complementary PNP Type Available (MMBTA92)
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: K3M
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 @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	MMBTA42	Unit
Collector-Base Voltage	V_{CB0}	300	V
Collector-Emitter Voltage	V_{CE0}	300	V
Emitter-Base Voltage	V_{EB0}	6.0	V
Collector Current (Note 1) (Note 3)	I_C	200	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 @ $T_A = 25\text{ C}$ unless otherwise specified

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

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