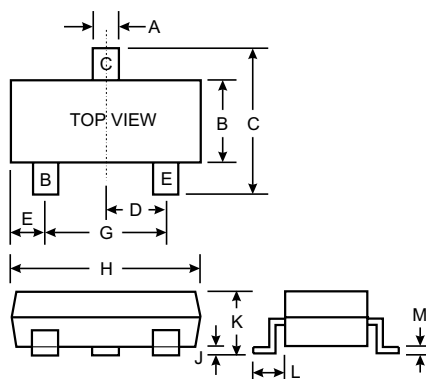


Features

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- High Current Gain

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: K1S
- 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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	DMBT9022	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous (Note 1)	I_C	100	mA
Power Dissipation (Note 1)	P_d	225	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	556	K/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50	—	V	$I_C = 50\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40	—	V	$I_C = 1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5.0	—	V	$I_E = 50\mu\text{A}, I_C = 0$
Collector Cutoff Current	I_{CBO}	—	500	nA	$V_{CB} = 30\text{V}$
Emitter Cutoff Current	I_{EBO}	—	500	nA	$V_{EB} = 4.0\text{V}$
ON CHARACTERISTICS (Note 2)					
DC Current Gain	h_{FE}	270	630	—	$I_C = 1.0\text{mA}, V_{CE} = 6.0\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.4	V	$I_C = 50\text{mA}, I_B = 5.0\text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}	2.0 Typ.	3.5	pF	$V_{CB} = 12\text{V}, f = 1.0\text{MHz}, I_E = 0$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Pulse test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.