MMST4124

NPN SMALL SIGNAL SURFACE MOUNT TRANSISTOR

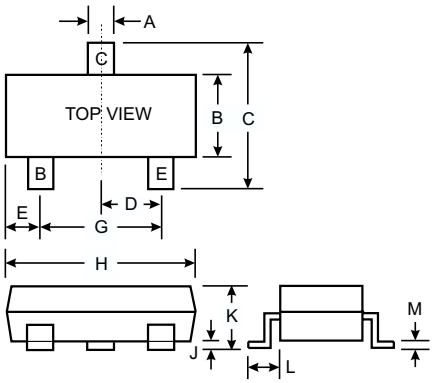
NEW PRODUCT

Features

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (MMST4126)
- Ideal for Medium Power Amplification and Switching
- Ultra-Small Surface Mount Package

Mechanical Data

- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking: K1B
- Weight: 0.006 grams (approx.)



SOT-323		
Dim	**Min**	**Max**
A	0.30	0.40
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	0.0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
All Dimensions in mm		

Maximum Ratings @ $T_A = 25°C$ unless otherwise specified

Characteristic	Symbol	MMST4124	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous (Note 1)	I_C	200	mA
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	625	K/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	°C

Notes: 1. Valid provided that terminals are kept at ambient temperature.
2. Pulse test: Pulse width ≤ 300μs, duty cycle ≤ 2%.

NEW PRODUCT

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30	—	V	I_C = 10μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25	—	V	I_C = 1.0mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5.0	6.0	V	I_E = 10μA, I_C = 0
Collector Cutoff Current	I_{CBO}	—	50	nA	V_{CB} = 20V, I_E = 0V
Emitter Cutoff Current	I_{EBO}	—	50	nA	V_{EB} = 3.0V, I_C = 0V
ON CHARACTERISTICS (Note 2)					
DC Current Gain	h_{FE}	120 60	360 —	—	I_C = 2.0mA, V_{CE} = 1.0V I_C = 50mA, V_{CE} = 1.0V
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.30	V	I_C = 50mA, I_B = 5.0mA
Base- Emitter Saturation Voltage	$V_{BE(SAT)}$	—	0.95	V	I_C = 50mA, I_B = 5.0mA
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}	—	4.0	pF	V_{CB} = 5.0V, f = 1.0MHz, I_E = 0
Input Capacitance	C_{ibo}	—	8.0	pF	V_{EB} = 0.5V, f = 1.0MHz, I_C = 0
Small Signal Current Gain	h_{fe}	120	480	—	V_{CE} = 1.0V, I_C = 2.0mA, f = 1.0kHz
Current Gain-Bandwidth Product	f_T	300	—	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 ≤ 300μs, duty cycle ≤ 2%.