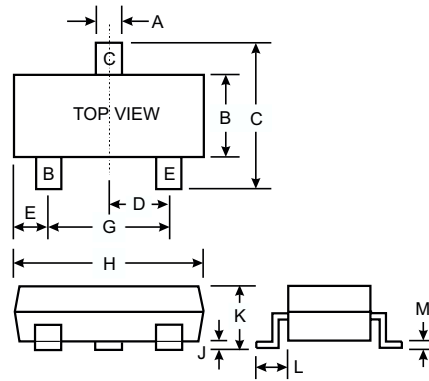


Features

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (MMSTA63/MMSTA64)
- Ideal for Medium Power Amplification and Switching
- High Current Gain
- Ultra-Small Surface Mount Package

Mechanical Data

- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- MMSTA13 Marking K2D, K3D
- MMSTA14 Marking K3D
- 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	MMSTA13	MMSTA14	Unit
Collector-Base Voltage	V _{CBO}	30		V
Collector-Emitter Voltage	V _{CEO}	30		V
Emitter-Base Voltage	V _{EBO}	10		V
Collector Current - Continuous (Note 1)	I _C	300		mA
Power Dissipation (Note 1)	P _d	200		mW
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	625		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-Emitter Breakdown Voltage	V _{(BR)CEO}	30	—	V	I _C = 100μA, V _{BE} = 0V
Collector Cutoff Current	I _{CBO}	—	100	nA	V _{CB} = 30V, I _E = 0
Emitter Cutoff Current	I _{EBO}	—	100	nA	V _{EB} = 10V, I _C = 0
ON CHARACTERISTICS (Note 2)					
DC Current Gain	MMSTA13 MMSTA14 MMSTA13 MMSTA14	h _{FE}	5,000 10,000 10,000 20,000	—	I _C = 10mA, V _{CE} = 5.0V I _C = 10mA, V _{CE} = 5.0V I _C = 100mA, V _{CE} = 5.0V I _C = 100mA, V _{CE} = 5.0V
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	1.5	V	I _C = 100mA, I _B = 100μA
Base- Emitter Saturation Voltage	V _{BE(SAT)}	—	2.0	V	I _C = 100mA, V _{CE} = 5.0V
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C _{obo}	8.0 Typical		pF	V _{CB} = 10V, f = 1.0MHz, I _E = 0
Input Capacitance	C _{ibo}	15 Typical		pF	V _{EB} = 0.5V, f = 1.0MHz, I _C = 0
Current Gain-Bandwidth Product	f _T	125	—	MHz	V _{CE} = 5.0V, 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%.