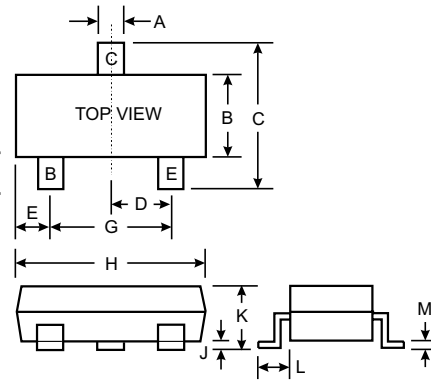


**Features**

- Epitaxial Planar Die Construction
- 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
- Marking: K1D
- 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	MMST6427	Unit
Collector-Base Voltage	V <sub>CBO</sub>	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	V
Emitter-Base Voltage	V <sub>EBO</sub>	12	V
Collector Current - Continuous (Note 1)	I <sub>C</sub>	500	mA
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	625	K/W
Operating and Storage and Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 2)</b>					
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	40	—	V	I <sub>C</sub> = 100μA, I <sub>E</sub> = 0
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	40	—	V	I <sub>C</sub> = 100mA, I <sub>B</sub> = 0
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	12	—	V	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0
Collector Cutoff Current	I <sub>CBO</sub>	—	50	nA	V <sub>CB</sub> = 30V, I <sub>E</sub> = 0
Collector Cutoff Current	I <sub>CEO</sub>	—	1.0	μA	V <sub>CE</sub> = 25V, I <sub>B</sub> = 0
Emitter Cutoff Current	I <sub>EBO</sub>	—	50	nA	V <sub>EB</sub> = 10V, I <sub>C</sub> = 0
<b>ON CHARACTERISTICS (Note 2)</b>					
DC Current Gain	h <sub>FE</sub>	10,000 20,000 14,000	100,000 200,000 140,000	—	I <sub>C</sub> = 10mA, V <sub>CE</sub> = 5.0V I <sub>C</sub> = 100mA, V <sub>CE</sub> = 5.0V I <sub>C</sub> = 500mA, V <sub>CE</sub> = 5.0V
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	—	1.2 1.5	V	I <sub>C</sub> = 50mA, I <sub>B</sub> = 0.5mA I <sub>C</sub> = 500mA, I <sub>B</sub> = 0.5mA
Base- Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	—	2.0	V	I <sub>C</sub> = 500mA, I <sub>B</sub> = 0.5mA
Base- Emitter On Voltage	V <sub>BE(ON)</sub>	—	1.75	V	I <sub>C</sub> = 50mA, V <sub>CE</sub> = 5.0V
<b>SMALL SIGNAL CHARACTERISTICS</b>					
Output Capacitance	C <sub>obo</sub>	8.0 Typical		pF	V <sub>CB</sub> = 10V, f = 1.0MHz, I <sub>E</sub> = 0
Input Capacitance	C <sub>ibo</sub>	15 Typical		pF	V <sub>EB</sub> = 0.5V, f = 1.0MHz, I <sub>C</sub> = 0

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