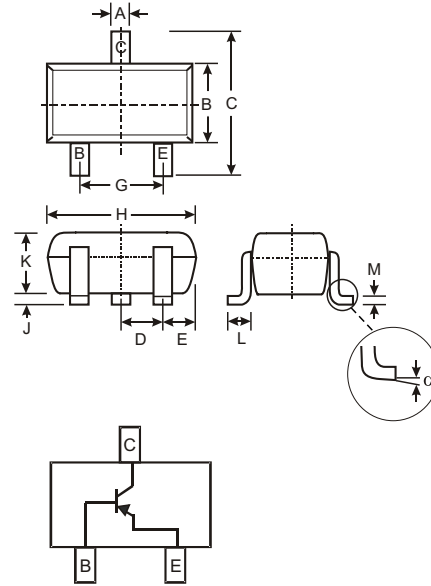


Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMSTA05/MMSTA06)
- Ideal for Medium Power Amplification and Switching
- Ultra-Small Surface Mount Package

Mechanical Data

- Case: SOT-323, Molded Plastic
- Case Material - UL Flammability Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- MMSTA55 Marking K2H, K2G (See Page 2)
- MMSTA56 Marking K2G (See Page 2)
- Ordering & Date Code Information: See Page 2
- Weight: 0.006 grams (approx.)



SOT-323		
Dim	Min	Max
A	0.25	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	0.18
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	MMSTA55	MMSTA56	Unit
Collector-Base Voltage	V_{CBO}	-60	-80	V
Collector-Emitter Voltage	V_{CEO}	-60	-80	V
Emitter-Base Voltage	V_{EBO}	-4.0		V
Collector Current - Continuous (Note 1)	I_C	-500		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		$^\circ\text{C}$

Note: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

Electrical Characteristics @ T_A = 25°C unless otherwise specified

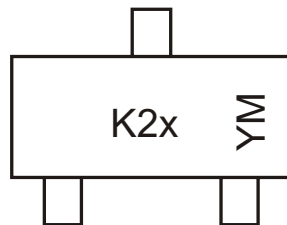
Characteristic		Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)						
Collector-Base Breakdown Voltage	MMSTA55 MMSTA56	V _{(BR)CBO}	-60 -80	—	V	I _C = -100μA, I _E = 0
Collector-Emitter Breakdown Voltage	MMSTA55 MMSTA56	V _{(BR)CEO}	-60 -80	—	V	I _C = -1.0mA, I _B = 0
Emitter-Base Breakdown Voltage		V _{(BR)EBO}	-4.0	—	V	I _E = -100μA, I _C = 0
Collector Cutoff Current	MMSTA55 MMSTA56	I _{CBO}	—	-100	nA	V _{CB} = -60V, I _E = 0 V _{CB} = -80V, I _E = 0
Collector Cutoff Current	MMSTA55 MMSTA56	I _{CEX}	—	-100	nA	V _{CE} = -60V, I _{BO} = 0V V _{CE} = -80V, I _{BO} = 0V
ON CHARACTERISTICS (Note 2)						
DC Current Gain		h _{FE}	100	—	—	I _C = -10mA, V _{CE} = -1.0V I _C = -100mA, V _{CE} = -1.0V
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	—	-0.25	V	I _C = -100mA, I _B = -10mA
Base- Emitter Saturation Voltage		V _{BE(SAT)}	—	-1.2	V	I _C = -100mA, V _{CE} = -1.0V
SMALL SIGNAL CHARACTERISTICS						
Current Gain-Bandwidth Product		f _T	50	—	MHz	V _{CE} = -1.0V, I _C = -100mA, f = 100MHz

Ordering Information (Note 3)

Device	Packaging	Shipping
MMSTA55-7 MMSTA56-7	SOT-323	3000/Tape & Reel

- Notes: 2. Short duration test pulse used to minimize self-heating effect.
3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



K2x = Product Type Marking Code, e.g. K2H = MMSTA55
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D