

MMBTA55 / MMBTA56

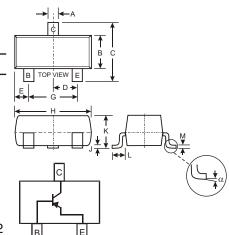
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary NPN Types Available (MMBTA05 / MMBTA06)
- Ideal for Medium Power Amplification and Switching

Mechanical Data

- · Case: SOT-23, Molded Plastic
- Case material UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- MMBTA55 Marking (See Page 2): K2H
- MMBTA56 Marking (See Page 2): K2G
- Ordering & Date Code Information: See Page 2
- Weight: 0.008 grams (approx.)



SOT-23								
Dim	Min	Max						
Α	0.37	0.51						
В	1.20	1.40						
С	2.30	2.50						
D	0.89	1.03						
E	0.45	0.60						
G	1.78	2.05						
Н	2.80	3.00						
J	0.10							
K	0.903	1.10						
L	0.45	0.61						
М	0.085	0.180						
α	0°	8°						
All Dimensions in mm								

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	MMBTA55	Unit	
Collector-Base Voltage	V _{CBO}	-60	-80	V
Collector-Emitter Voltage	V _{CEO}	-60	V	
Emitter-Base Voltage	V _{EBO}	-4	V	
Collector Current - Continuous (Note 1)	Ic	-50	mA	
Power Dissipation (Note 1)	P _d	30	mW	
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	41	°C/W	
Operating and Storage and Temperature Range	T _j , T _{STG}	-55 to	°C	

Electrical Characteristics @ TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition				
OFF CHARACTERISTICS (Note 2)									
Collector-Base Breakdown Voltage MMBTA55 MMBTA56		V _{(BR)CBO}	-60 -80	_	V	$I_C = -100\mu A, I_E = 0$			
Collector-Emitter Breakdown Voltage MMBTA55 MMBTA56		V _{(BR)CEO}	-60 -80	_	V	I _C = -1.0mA, I _B = 0			
Emitter-Base Breakdown Voltage		V _{(BR)EBO}	-4.0	_	V	$I_E = -100 \mu A, I_C = 0$			
Collector Cutoff Current MMBTA55 MMBTA56		I _{CBO}	_	-100	nA	V _{CB} = -60V, I _E = 0 V _{CB} = -80V, I _E = 0			
Collector Cutoff Current MMBTA55 MMBTA56		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	$I_C = -100 \text{mA}, I_B = -10 \text{mA}$			
Base- Emitter Saturation Voltage		V _{BE(SAT)}	_	-1.2	V	$I_C = -100 \text{mA}, V_{CE} = -1.0 \text{V}$			
SMALL SIGNAL CHARACTERISTICS									
Current Gain-Bandwidth Product		f _T	50	_	MHz	V _{CE} = -1.0V, I _C = -100mA, f = 100MHz			

Notes: 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.

2. Short duration test pulse used to minimize self-heating effect.



Ordering Information (Note 3)

Device	Packaging	Shipping		
MMBTA55-7 MMBTA56-7	SOT-23	3000/Tape & Reel		

Notes: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	М	N	Р	R	S	Т	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	0	N	D