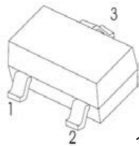


## Features

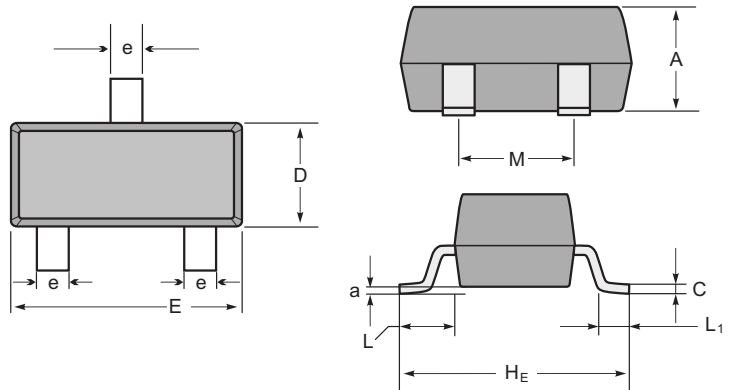
- Epitaxial Planar Die Construction
- Complementary NPN Types Available (MMBTA05 / MMBTA06)
- Ideal for Low Power Amplification and Switching

MMBTA55 Marking: 2H

MMBTA56 Marking: 2GM



1.BASE  
2.EMITTER  
3.COLLECTOR



SOT-23 mechanical data

UNIT		A	C	D	E	H <sub>E</sub>	e	M	L	L <sub>1</sub>	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	MMBTA55	MMBTA56	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-60	-80	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-60	-80	V
Emitter-Base Voltage	V <sub>EBO</sub>		-4.0	V
Collector Current - Continuous	I <sub>C</sub>		-500	mA
Power Dissipation	P <sub>d</sub>		300	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>		417	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>		-55 to +150	°C

# MMBTA55 / MMBTA56

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS</b>						
Collector-Base Breakdown Voltage	MMBTA55 MMBTA56	$V_{(BR)CBO}$	-60 -80	—	V	$I_C = -100\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	MMBTA55 MMBTA56	$V_{(BR)CEO}$	-60 -80	—	V	$I_C = -1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	-4.0	—	V	$I_E = -100\mu\text{A}, I_C = 0$
Collector Cutoff Current	MMBTA55 MMBTA56	$I_{CBO}$	—	-100	nA	$V_{CB} = -60\text{V}, I_E = 0$ $V_{CB} = -80\text{V}, I_E = 0$
Collector Cutoff Current	MMBTA55 MMBTA56	$I_{CEX}$	—	-100	nA	$V_{CE} = -60\text{V}, I_{BO} = 0\text{V}$ $V_{CE} = -80\text{V}, I_{BO} = 0\text{V}$
<b>ON CHARACTERISTICS</b>						
DC Current Gain		$h_{FE}$	100	—	—	$I_C = -10\text{mA}, V_{CE} = -1.0\text{V}$ $I_C = -100\text{mA}, V_{CE} = -1.0\text{V}$
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	$I_C = -100\text{mA}, V_{CE} = -1.0\text{V}$
<b>SMALL SIGNAL CHARACTERISTICS</b>						
Current Gain-Bandwidth Product		$f_T$	50	—	MHz	$V_{CE} = -1.0\text{V}, I_C = -100\text{mA}, f = 100\text{MHz}$

## RATING AND CHARACTERISTIC CURVES (MMBTA55/MMBTA56)

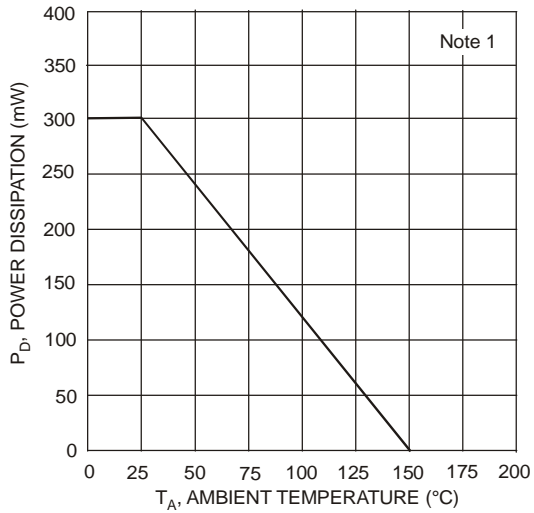


Fig. 1 Max Power Dissipation vs Ambient Temperature

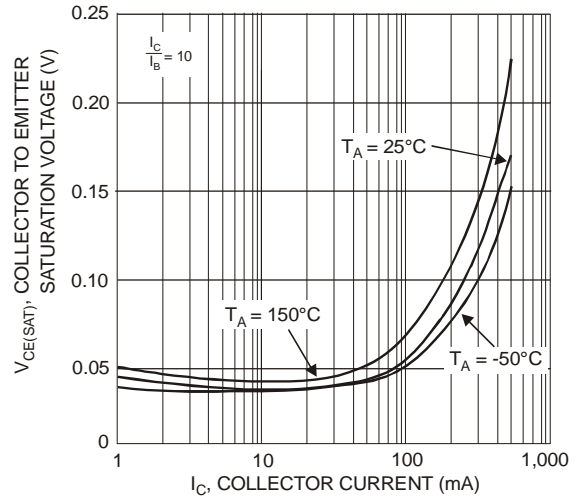


Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

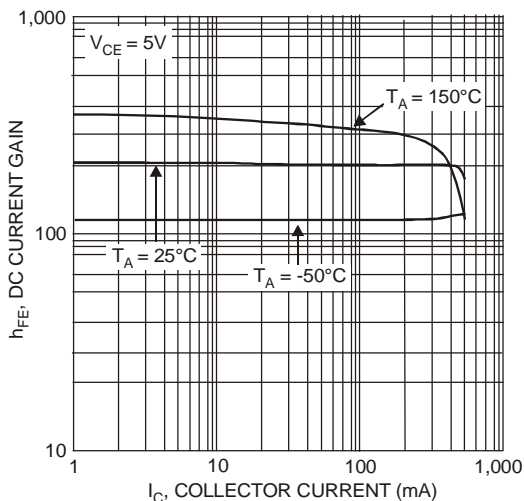


Fig. 3 DC Current Gain vs. Collector Current

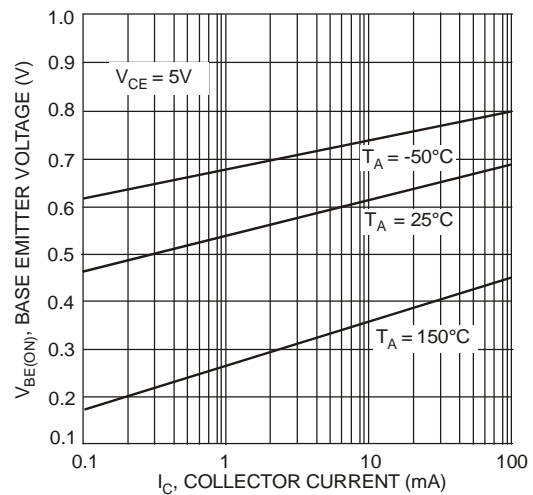


Fig. 4 Base Emitter Voltage vs. Collector Current

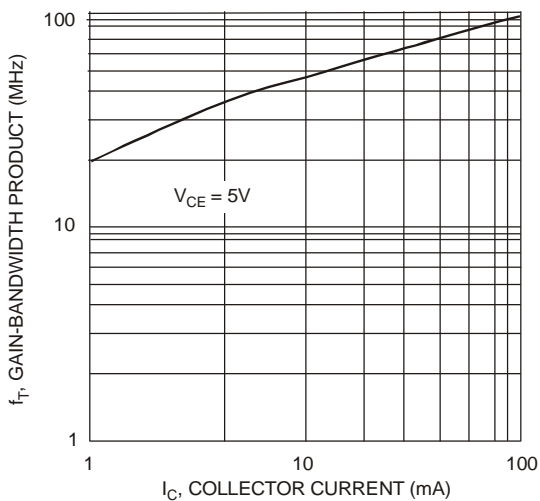


Fig. 5 Gain-Bandwidth Product vs. Collector Current