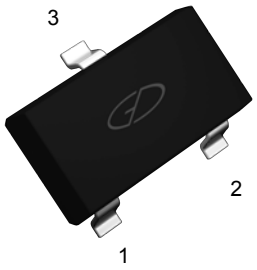
GOOD-ARK
SEMICONDUCTOR

GSMMBTA56
PNP Transistor

Features

- General Purpose Amplifier Applications

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-80	V
Collector - Emitter Voltage	V_{CEO}	-80	V
Emitter - Base Voltage	V_{EBO}	-4	V
Collector Current - Continuous	I_C	-500	mA
Collector Power Dissipation	P_C	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	555	°C/W
Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-100μA, I_E=0	-80	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-1mA, I_B=0	-80	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-100μA, I_C=0	-4	-	V
Collector Cut-Off Current	I_{CBO}	V_{CB}=-80V, I_E=0	-	-0.1	μA
Collector Cut-Off Current	I_{CEO}	V_{CE}=-60V, I_B=0	-	-1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-4V, I_C=0	-	-0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-1V, I_C=-10mA	100	400	-
	$h_{FE(2)}$	V_{CE}=-1V, I_C=-100mA	100	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-100mA, I_B=-10mA	-	-0.25	V
Base-Emitter Voltage	V_{BE}	I_C=-100mA, V_{CE}=-1V	-	-1.2	V
Transition Frequency	f_T	V_{CE}=-1V, I_C=-100mA, F=100MHz	50	-	MHz

Typical Electrical and Thermal Characteristic Curves

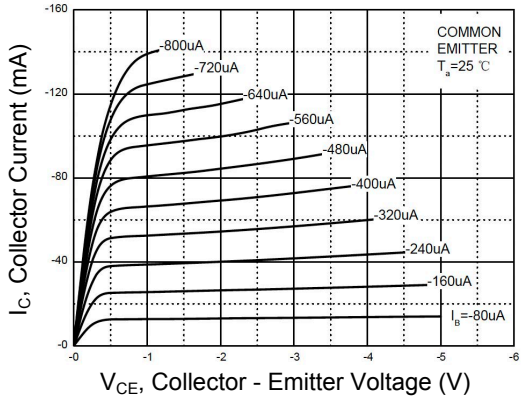


Figure 1. Collector Current vs. Collector - Emitter Voltage

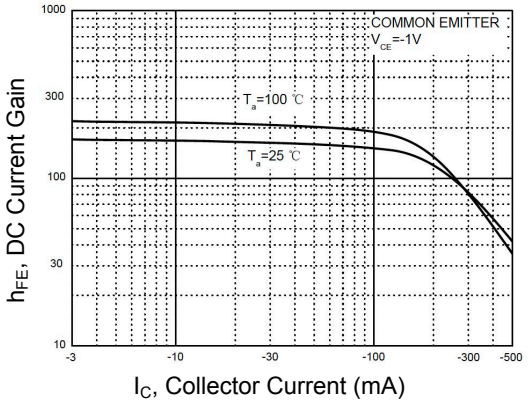


Figure 2. DC Current Gain vs Collector Current

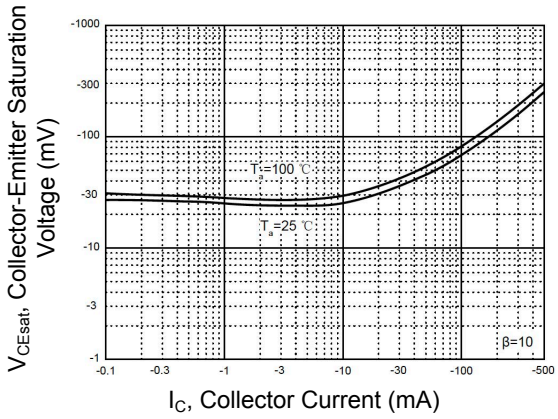


Figure 3. Collector - Emitter Saturation Voltage vs. Collector Current

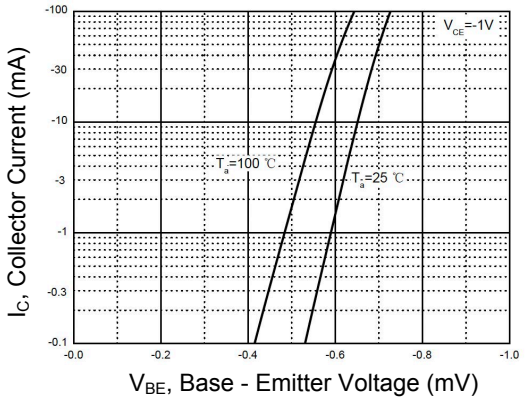


Figure 4. Collector Current vs. Base - Emitter Voltage

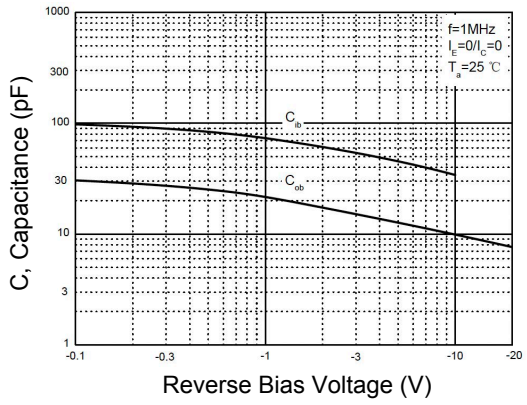


Figure 5. Capacitance Characteristics

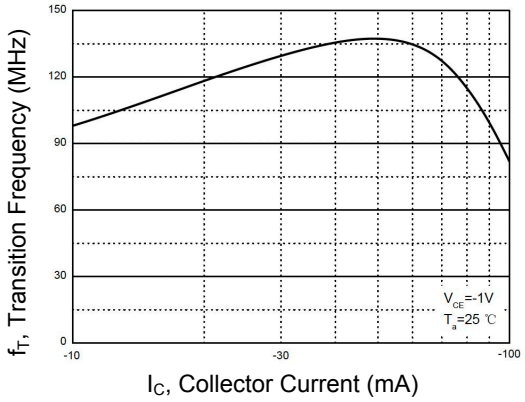


Figure 6. Transition Frequency vs. Collector Current

Typical Electrical and Thermal Characteristic Curves

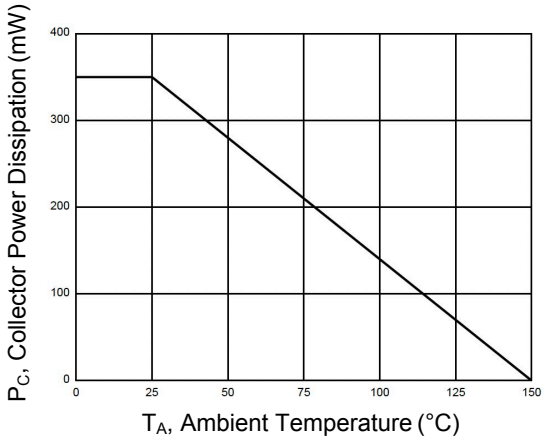
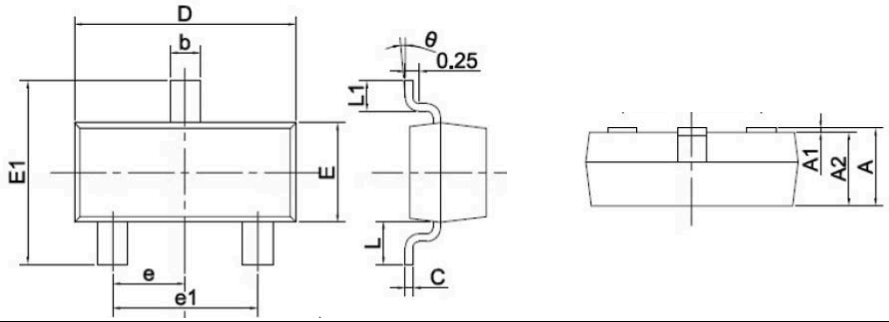


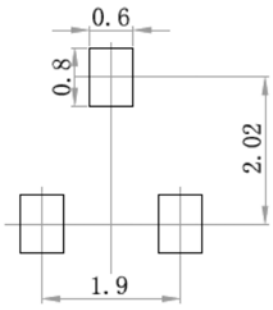
Figure 7. Power Dissipation vs Ambient Temperature

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Recommended Pad Layout



Note:
1. Controlling dimensions: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

Order Information

Part Number	Package	Marking	Carrier	Quantity
GSMMBTA56	SOT-23	2GM	Tape & Reel	3,000 pcs / Reel