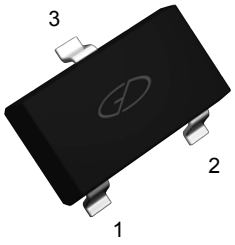
GOOD-ARK SEMICONDUCTOR

GSMMBT5087
PNP Transistor

Features

- High voltage and high current
- Excellent h_{FE} linearity

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-150	mA
Collector Power Dissipation	P_C	200	mW
Typical Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Operating 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=-100uA, I_E=0	-50	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-0.1mA, I_B=0	-50	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-100uA, I_C=0	-5	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=-50V, I_E=0	-	-0.1	μA
Collector Cut-off Current	I_{CEO}	V_{CE}=-50V, I_B=0	-	-1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-0.1	μA
DC Current Gain	h_{FE}	V_{CE}=-6V, I_C=-2mA	120	400	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-100mA, I_B=-10mA	-	-0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-100mA, I_B=-10mA	-	-1.1	V
Transition Frequency	f_T	V_{CE}=-10V, I_C=-1mA, F=30MHz	80	-	MHz

Classification of h_{FE}

Rank	L	H
Range	120-240	200-400

Typical Electrical Characteristic Curves

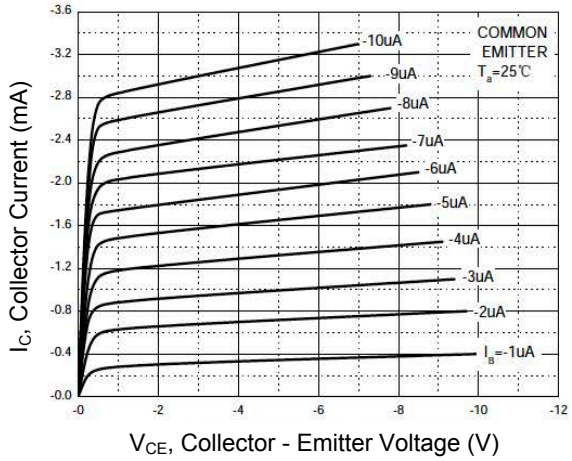


Figure 1. Static Characteristics

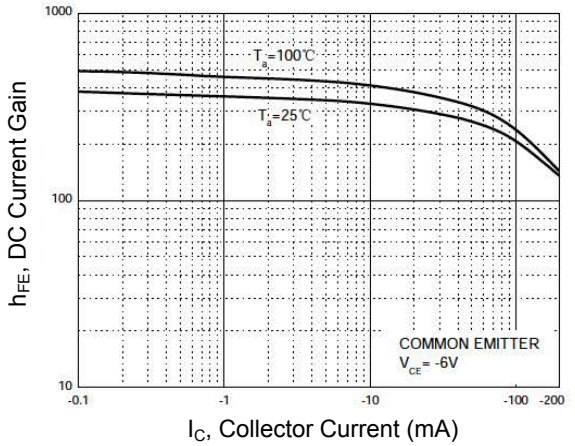


Figure 2. DC Current Gain vs. Collector Current

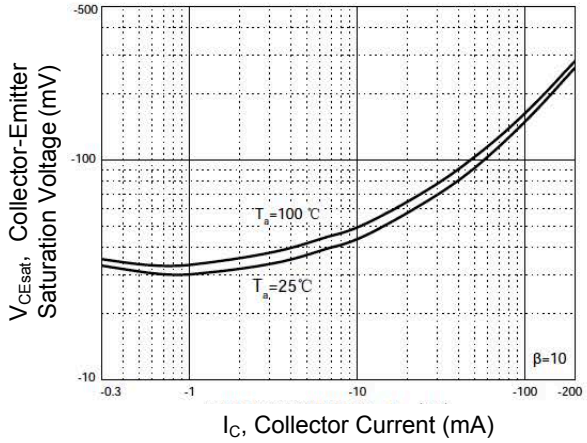


Figure 3. Collector - Emitter Saturation Voltage vs. Collector Current

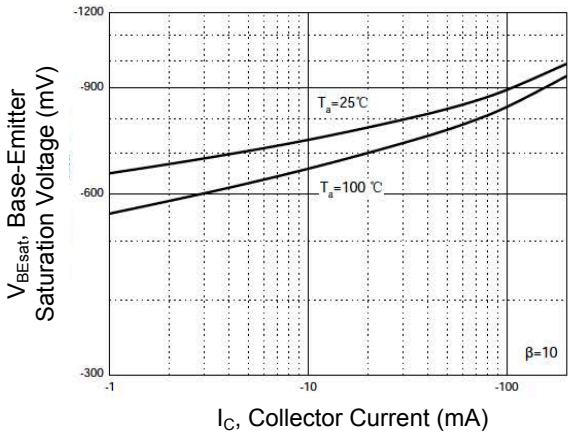


Figure 4. Base - Emitter Saturation Voltage vs. Collector Current

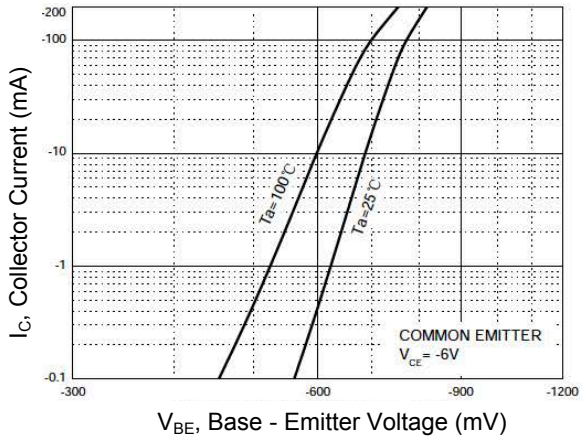


Figure 5. Collector Current vs. Base - Emitter Voltage

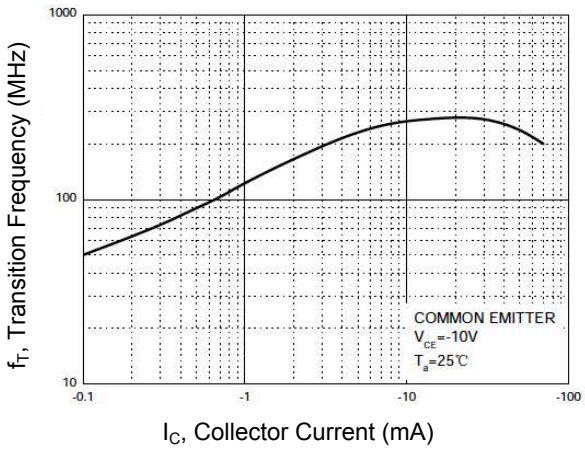


Figure 6. Transition Frequency vs. Collector Current

Typical Electrical Characteristic Curves

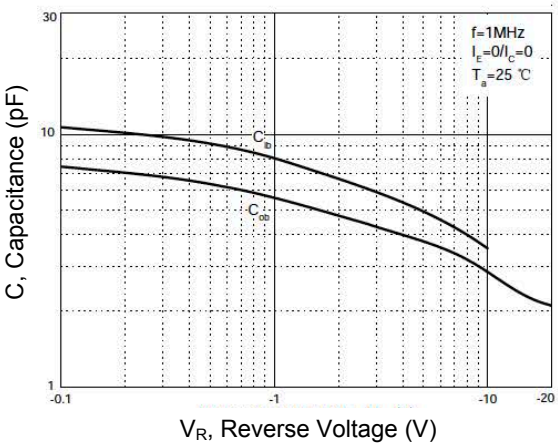


Figure 7. Capacitance Characteristics

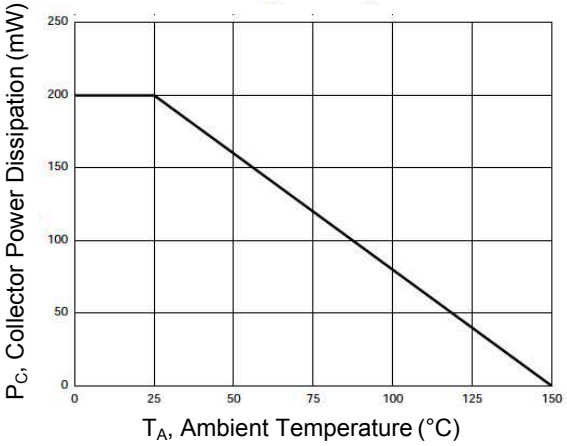
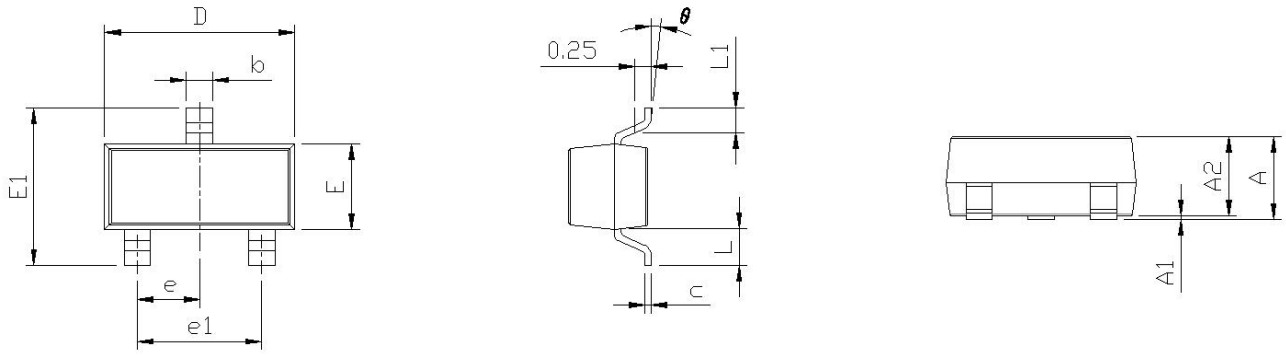


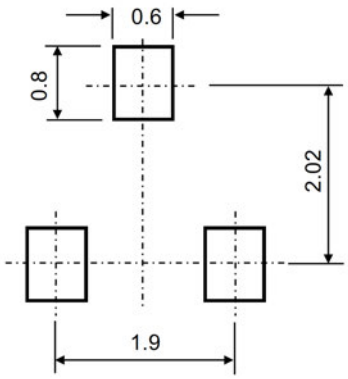
Figure 8. Power Dissipation vs Ambient Temperature

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 dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference purposes only

Order Information

Device	Package	Marking	Quantity	HSF Status
GSMMBT5087	SOT- 23	BA	3,000pcs / Reel	RoHS Compliant