GSTMMBTA06JZF

NPN Transistor

Product Description

This device is designed for a general-purpose application.

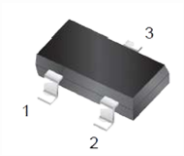
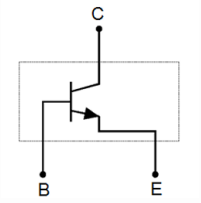
Features

- BV_{CEO} 80V

Mechanical Data

- SOT-23. Package
- RoHS Compliant and Halogen Free

Package and Pin Assignment

SOT-23	Equivalent Circuit
	

Pin	Description	Pin	Description
1	Base	3	Collector
2	Emitter		

Ordering and Marking Information

GS P/N	Package	Marking	Quantity / Reel
GSTMMBTA06JZF	SOT-23	1GM	3,000PCS

GSTMMBTA06JZF

- **Product Code:** GSTMMBTA06
- **Package Code:** **JZ** for SOT-23
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information

- **Product Code:** 1GM

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

Symbol	Parameter	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	80	V
V_{CBO}	Collector-Base Voltage	80	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Peak Collector Current	500	mA
P_D	Power Dissipation T_A=25°C∗	300	mW
$R_{\Theta JA}$	Thermal Resistance, Junction to Ambient∗	416	°C/W
T_J	Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

∗ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

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

Symbol	Description	Conditions	Min	Max	Unit
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=1mA, I_B=0mA	80	-	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=0.1mA, I_E=0mA	80	-	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=0.1mA, I_C=0mA	4	-	V
I_{CBO}	Collector Cutoff Current	V_{CB}=80V, I_E=0mA	-	100	nA
I_{CEO}	Collector Cutoff Current	V_{CE}=60V, I_B=0mA	-	1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}=3V, I_C=0mA	-	100	nA
h_{FE}	DC Current Gain	I_C=10mA, V_{CE}=1V	100	-	-
		I_C=100mA, V_{CE}=1V	100	-	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C=100mA, I_B=10mA	-	0.25	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C=100mA, I_B=10mA	-	1.2	V
f_T	Transition Frequency	V_{CE}=2V, I_C=10mA, f=100MHz	100	-	MHz

Typical Characteristics (T_A=25℃ unless otherwise specified)

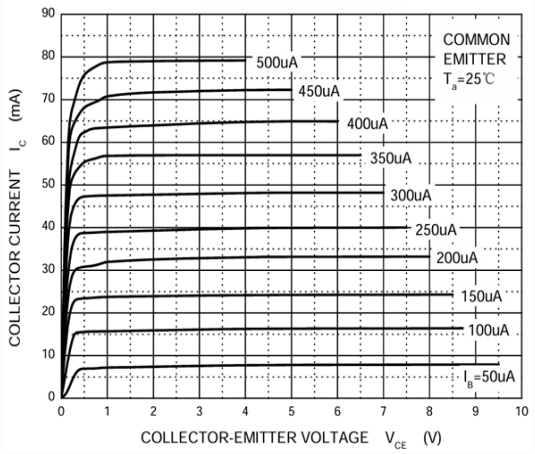


FIG 1. Static Characteristic

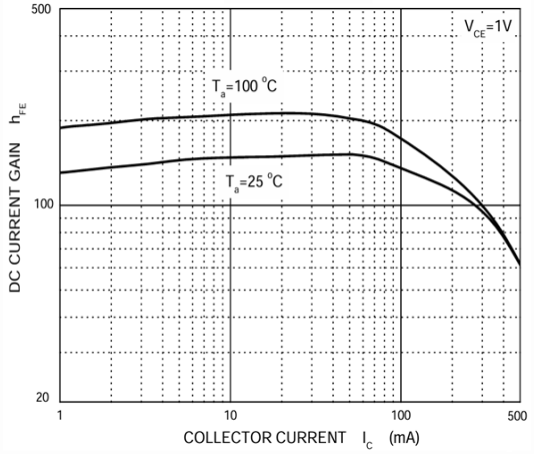


FIG 2. h_{FE} vs. I_C

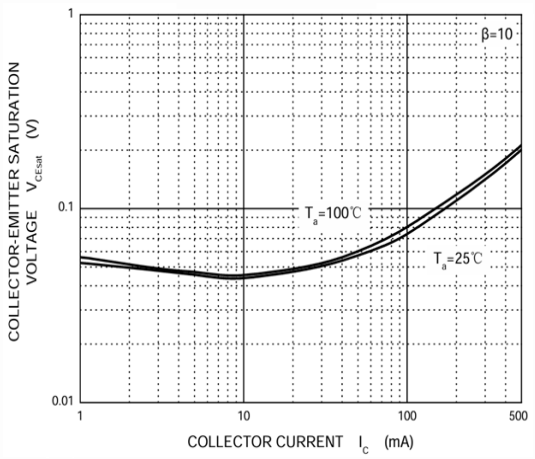


FIG 3. $V_{CE(SAT)}$ vs. I_C

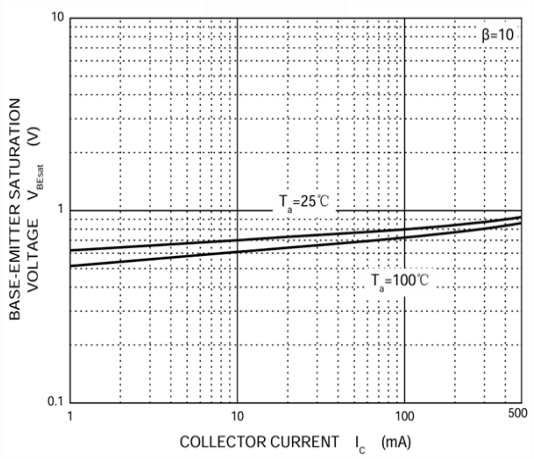


FIG 4. $V_{BE(SAT)}$ vs. I_C

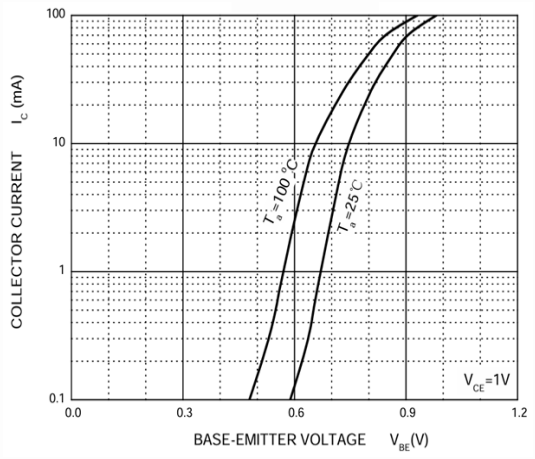


FIG 5. V_{BE} vs. I_C

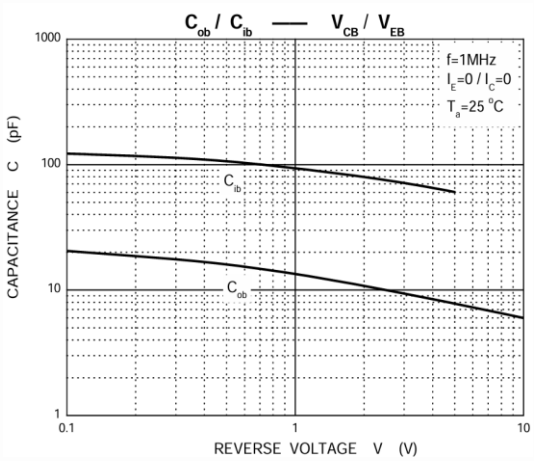


FIG 6. Capacitance Characteristic

Typical Characteristics (T_A=25℃ unless otherwise specified)

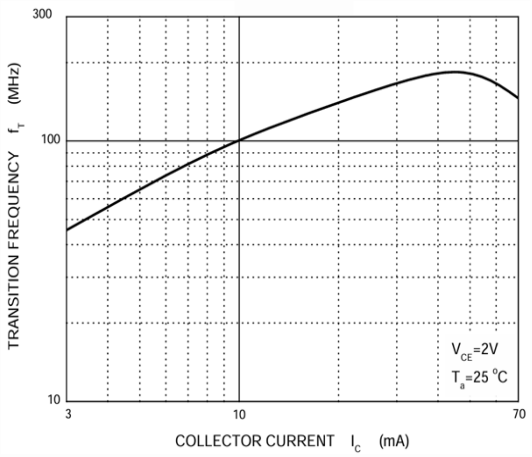


FIG 7. f_T vs. I_C

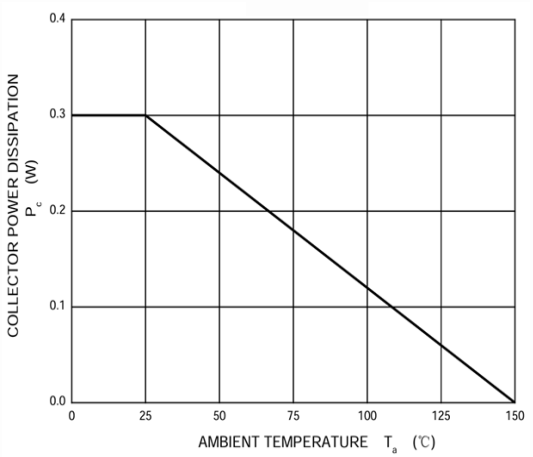
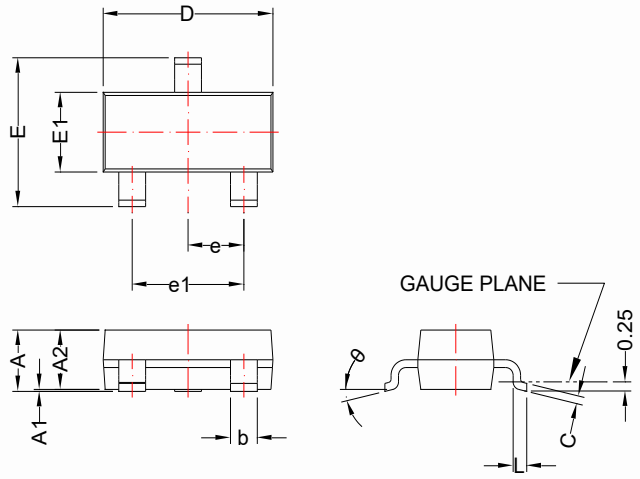


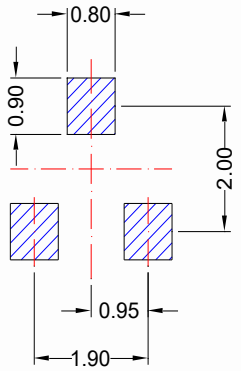
FIG 8. Power Derating Curve

SOT-23

Package Dimension



Recommended Land Pattern



Unit:mm

Dimensions

SYMBOL	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	0.75	1.20	0.030	0.047
A1	0.00	0.15	0.000	0.006
A2	0.70	1.10	0.028	0.043
b	0.30	0.60	0.012	0.024
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.2	0.6	0.008	0.024
θ	0°	8°	0°	8°

NOTE:

Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

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