GSTMMBT2907AWF

PNP General Purpose Transistor

Product Description

Collector-Emitter Voltage -60V
Collector Current -600mA

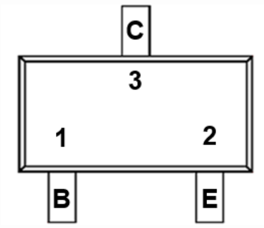
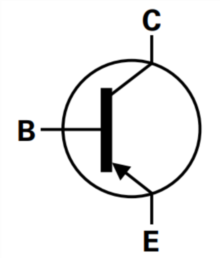
Features

- Ideal for Low-Power Amplification and Switching
- RoHS Compliant and Halogen Free

Mechanical Data

- Case : SOT-323 Package
- Epoxy meets UL 94 V-0 Flammability Rating

Package and Pin Assignment

SOT-323	Equivalent Circuit
	

Pin	Description
1	BASE
2	EMITTER
3	COLLECTOR

Ordering and Marking Information

Ordering Information			
Part Number	**Package**	**Marking Code**	**Quantity/Reel**
GSTMMBT2907AWF	SOT-323	2F	3,000 PCS

GSTMMBT2907AWF

- **Product Code:** GSTMMBT2907AW
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information

2F

- **Product Code:** 2F

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

Symbol	Parameter	Rating	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	℃/W
T_J	Junction Temperature	150	℃
T_{STG}	Storage Temperature	-55～+150	℃

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

Symbol	Description	Conditions	Min	Max	Unit
V_{CEO}	Collector-Emitter Breakdown Voltage	I_C=-10mA, I_B=0	-60		V
V_{CBO}	Collector-Base Breakdown Voltage	I_C =-10μA, I_E=0	-60		V
V_{EBO}	Emitter-Base Breakdown Voltage	I_E=-10μA, I_C =0	-5.0		V
I_{CBO}	Collector Cutoff Current	V_{CB}=-50V, I_E =0V		-100	nA
I_{CEX}	Collector Cutoff Current	V_{CE}=-30V, V_{BE}=-0.5V		-50	nA
I_{BL}	Base Cutoff Current	V_{CE}=-30V, V_{BE} =-0.5V		-50	nA
h_{FE}	DC Current Gain	I_C =-0.1mA, V_{CE}=-10V	75		
		I_C =-1.0mA, V_{CE} =-10V	100		
		I_C =-10mA, V_{CE} =-10V	100		
		I_C =-150mA, V_{CE} =-10V	100	300	
		I_C =-500mA, V_{CE} =-10V	50		
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	I_C =-150mA, I_B=-15mA		-0.4	V
		I_C =-500mA, I_B =-50mA		-1.6	V
$V_{BE(SAT)}$	Base-Emitter Saturation Voltage	I_C =-150mA, I_B =-15mA		-1.3	V
		I_C =-500mA, I_B =-50mA		-2.6	V
f_T	Current Gain-Bandwidth Product	I_C=-50mA, V_{CE}=-20V,f=100MHz	200		MHZ

Electrical Characteristics (T$_A$=25°C unless otherwise specified)

Symbol	Description	Conditions	Min	Max	Unit
Switching Characteristic					
t_d	Delay Time	V$_{CE}$ =-30V,I$_C$=-50mA, I$_{B1}$=-15mA		10	ns
t_r	Rise Time			40	ns
t_s	Storage Time	V$_{CE}$ =-6.0V,I$_C$=-150mA I$_{B1}$=-I$_{B2}$=-15mA		80	ns
t_f	Fall Time			30	ns

Typical Characteristics

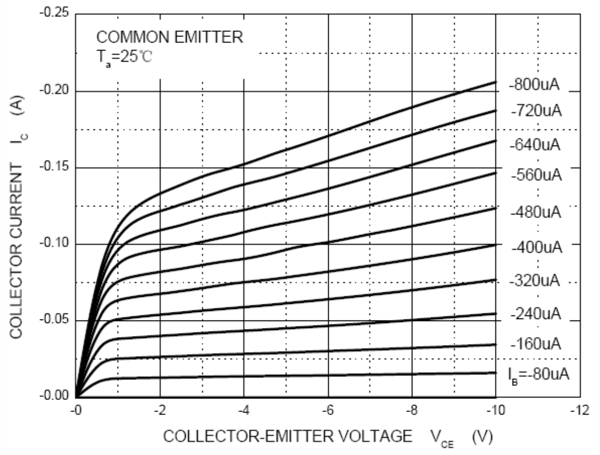


Figure 1. Static Characteristic

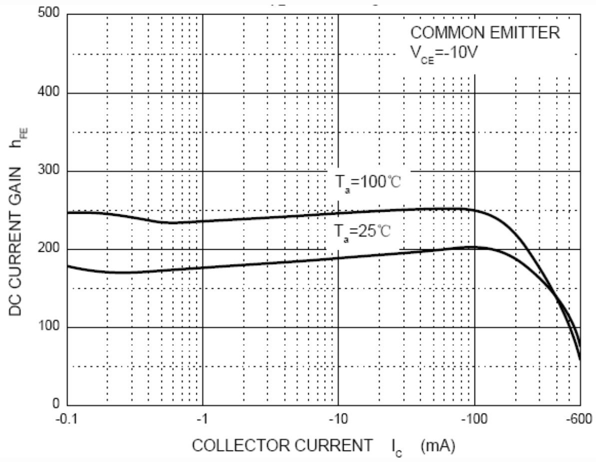


Figure 2. h$_{FE}$---I$_C$

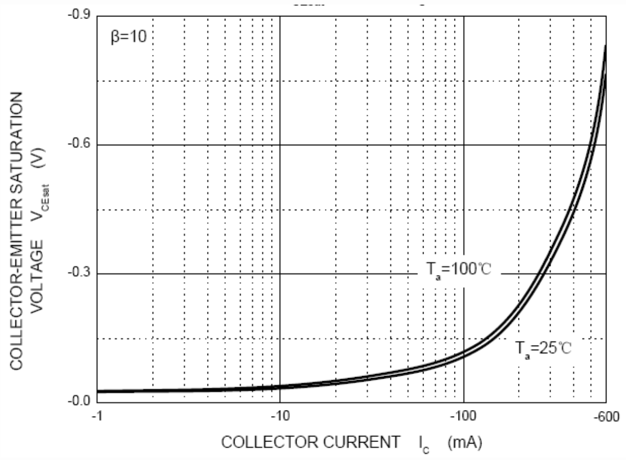


Figure 3. V$_{CESAT}$---I$_C$

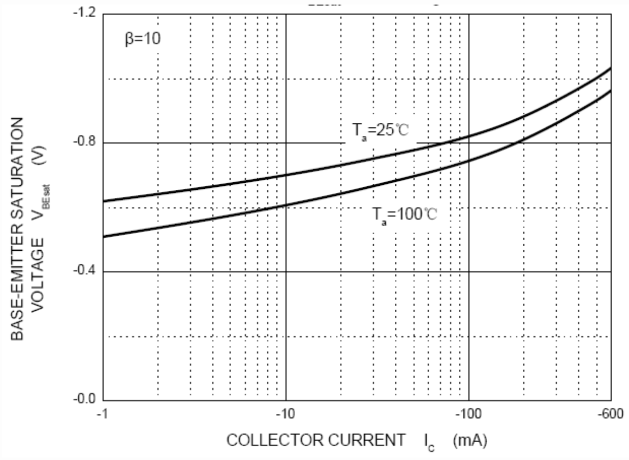


Figure 4. V$_{BESAT}$---I$_C$

Typical Characteristics (Continue)

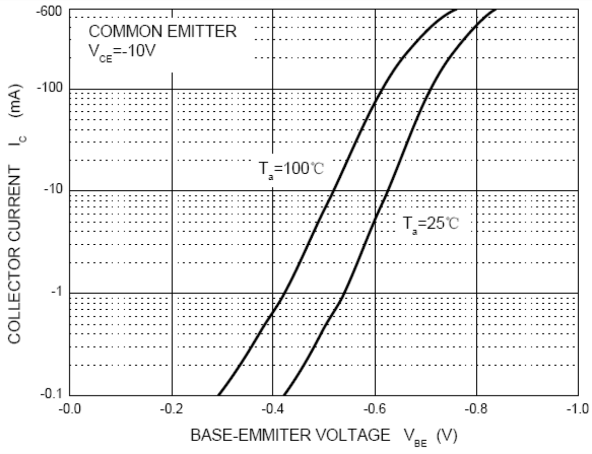


Figure 5. I_C---V_{BE}

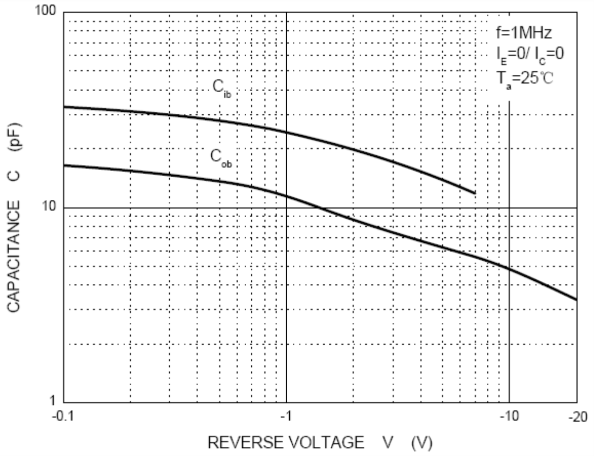
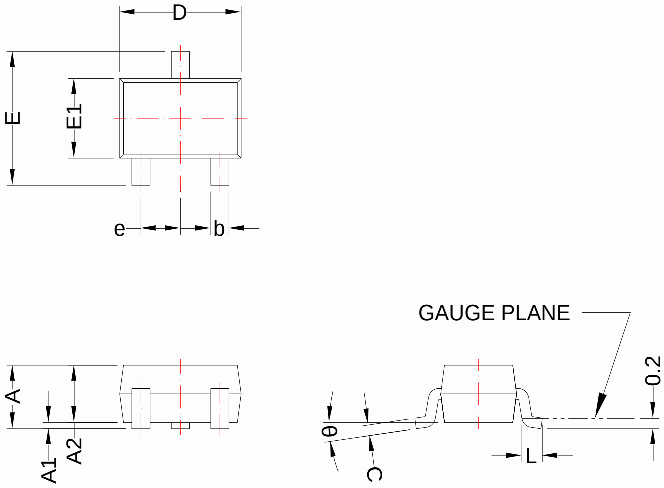


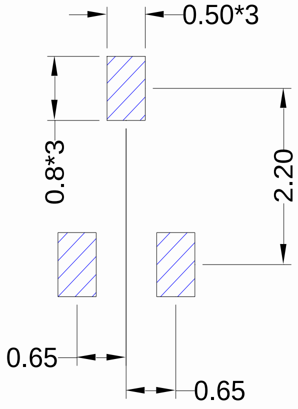
Figure 6. C_{ob}/C_{ib}---V_{CB}/ V_{BE}

SOT-323

Package Dimension



Recommended Land Pattern



(Unit: mm)

Dimensions				
SYMBOL	**Millimeters**		**Inches**	
	MIN	**MAX**	**MIN**	**MAX**
A	0.80	1.10	0.031	0.043
A1	0.00	0.10	0.000	0.004
A2	0.80	1.00	0.031	0.039
b	0.20	0.40	0.008	0.016
c	0.08	0.26	0.003	0.010
D	1.80	2.20	0.071	0.087
E	1.80	2.40	0.071	0.094
E1	1.15	1.35	0.045	0.053
e	0.65 BSC		0.026 BSC	
L	0.26	0.45	0.010	0.018
θ	0°	8°	0°	8°

NOTE:
Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions.

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