GSTMMDT2907AJ4F

PNP General Purpose Transistor

Product Description

This device is designed as a general-purpose amplifier and switch.

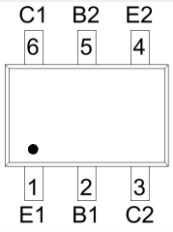
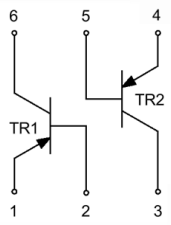
Features

- Collector-emitter voltage V_{CE} = -60V
- Collector current I_C = -600mA
- RoHS Compliant and Halogen Free

Mechanical Data

- SOT-363 package design
- Epoxy meets UL 94 V-0 Flammability Rating

Packages & Pin Assignments

SOT-363	Equivalent Circuit
 Top View	

Pin	Symbol	Description	Pin	Symbol	Description
1	E1	Emitter 1	**6**	C1	Collector 1
2	B1	Base 1	**5**	B2	Base 2
3	C2	Collector 2	**4**	E2	Emitter 2

Ordering and Marking Information

Ordering Information			
Part Number	**Package**	**Marking Code**	**Quantity/Reel**
GSTMMDT2907AJ4F	SOT-363	K2F	3,000 PCS

GSTMMDT2907A[1][2]

- **Product Code:** GSTMMDT2907A
- **Package Code:** [1] is **J4** for SOT-363
- **Green Level:** **F** for RoHS Compliant and Halogen Free

Marking Information

K2F

- **Product Code:** K2F

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

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_D	Power Dissipation T_A=25°C✶	200	mW
$R_{\Theta JA}$	Thermal Resistance, Junction to Ambient	625	°C/W
T_J	Junction Temperature Range	150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

✶ Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

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

Symbol	Description	Conditions	Min	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=-10μA, I_E=0	-60		V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=-10mA, I_B=0	-60		V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=-10μA, I_C=0	-5		V
I_{CEX}	Collector cut-off current	V_{CE}=-30V, $V_{BE(OFF)}$=-0.5V		-50	nA
I_{CBO}	Collector cut-off current	V_{CB}=-50V, I_E=0		-20	nA
I_{EBO}	Emitter-Base Cutoff Current	V_{EB}=-3V, I_E=0		-10	nA
h_{FE}	DC Current Gain	V_{CE}=-10V, I_C=-0.1mA	75		
		V_{CE}=-10V, I_C=-1mA	100		
		V_{CE}=-10V, I_C=-10mA	100		
		V_{CE}=-10V, I_C=-150mA	100	300	
		V_{CE}=-10V, I_C=-500mA	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	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C=-150mA, I_B=-15mA		-1.3	V
		I_C=-500mA, I_B=-50mA		-1.6	
f_T	Current Gain-Bandwidth Product	V_{CE} =-20V, I_C =-50mA f= 100MHz	200	-	MHz
C_{ob}	Collector output capacitance	V_{CB}=-10V, I_E=0,f=1MHz		8	pF
C_{ib}	Input capacitance	V_{CE}=-2V, I_C=-0, f=1MHZ		30	pF
t_d	Delay time	V_{CC}=-30V, I_C=-150mA , I_{B1}=-15mA		10	nS
t_r	Rise time			40	nS
t_S	Storage time	V_{CC}=-6V, I_C=-150mA I_{B1}=-I_{B2}=-15mA		225	nS
t_f	Fall time			60	nS

Typical Performance Characteristics (T_A=25°C unless otherwise specified)

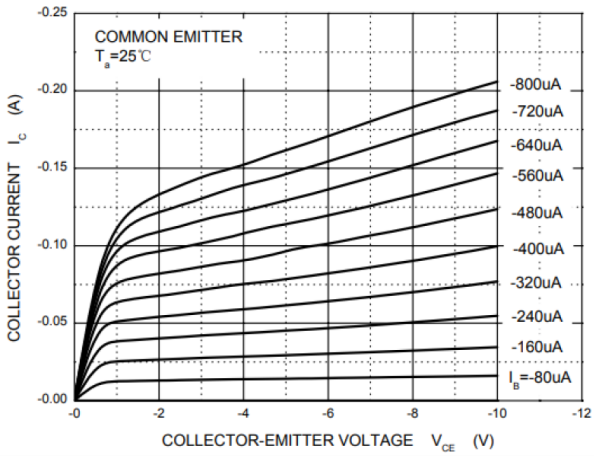


Figure 1. Static Characteristic

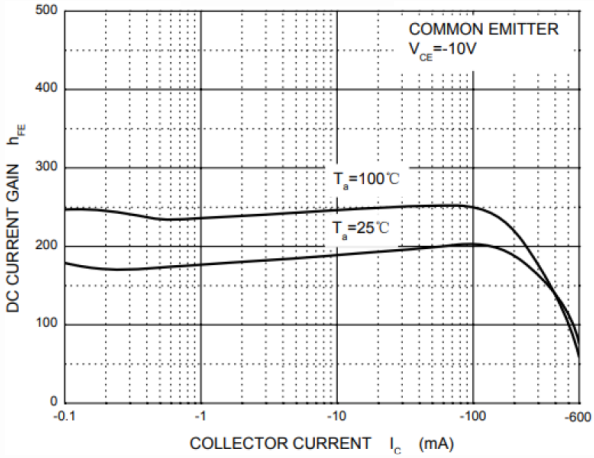


Figure 2. DC Current Gain vs. Collector Current

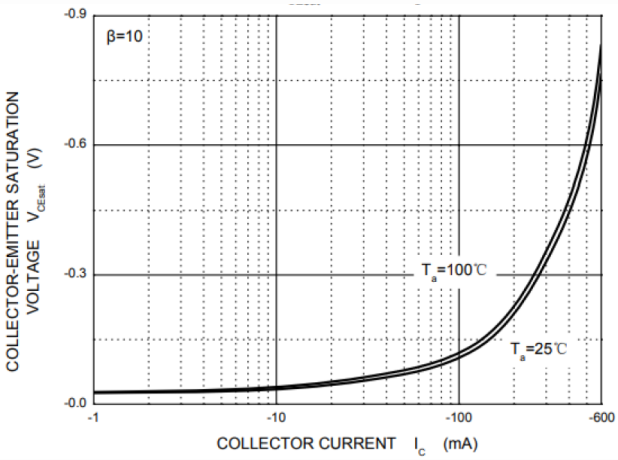


Figure 3. Collector-Emitter Saturation Voltage vs. Collector Current

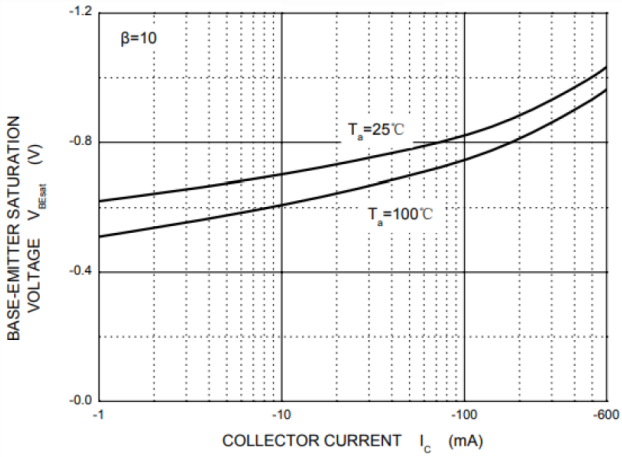


Figure 4. Base-Emitter Saturation Voltage vs. Collector Current

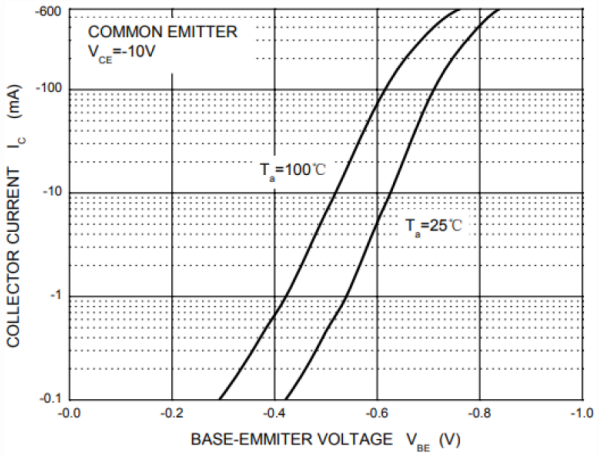


Figure 5. Collector Current vs. Base-Emitter Voltage

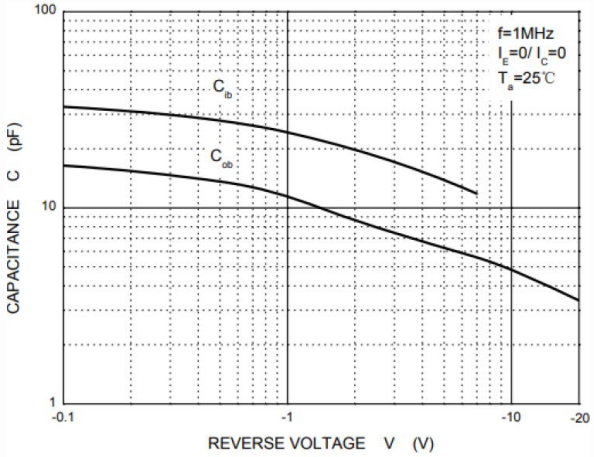


Figure 6. Capacitance vs. Reverse Voltage

Typical Performance Characteristics

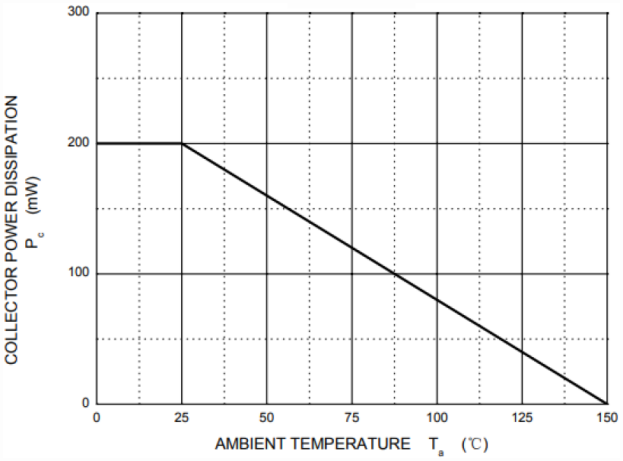
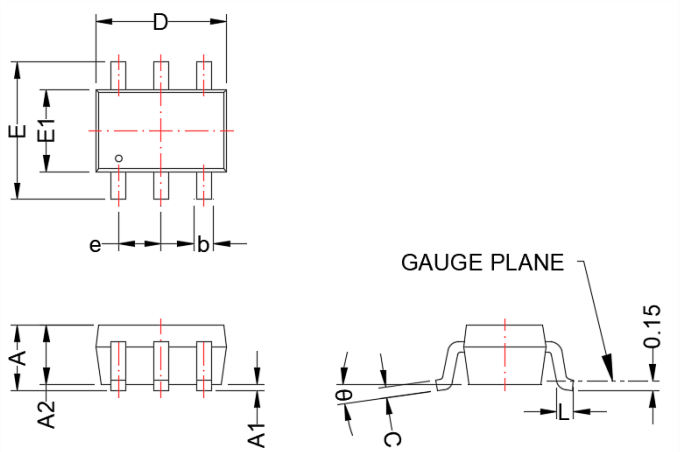


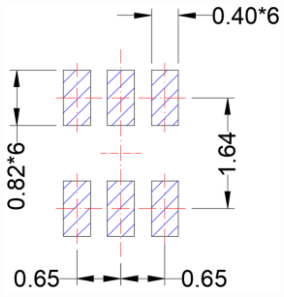
Figure 7. Collector Power Dissipation vs. Ambient Temperature

SOT-363

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	0.70	1.00	0.028	0.039
b	0.15	0.30	0.006	0.012
c	0.08	0.25	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	0.46	0.010	0.018
θ	0°	8°	0°	8°

NOTE:

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

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