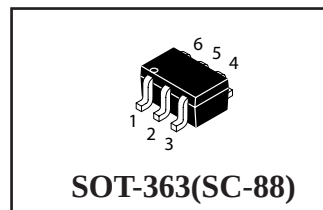
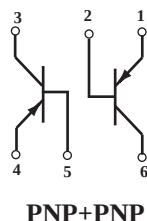


Dual General Purpose Transistor PNP+PNP Silicon

 Lead(Pb)-Free



Maximum Ratings

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	-60	Vdc
Collector-Base Voltage	V_{CBO}	-60	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current-Continuous	I_C	-600	mAdc

Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation $T_A=25^\circ\text{C}$	P_D	200	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction and Storage, Temperature	$T_{J,Tstg}$	-55 to +150	$^\circ\text{C}$

Device Marking

MBT2907ADW=2F

Electrical Characteristics ($T_A=25^\circ\text{C}$ Unless Otherwise noted)

Characteristics	Symbol	Min	Max	Unit
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Off Characteristics

Collector-Emitter Breakdown Voltage ⁽²⁾ ($I_C=-10\text{mAdc}$, $I_B=0$)	$V_{(BR)CEO}$	-60	-	Vdc
Collector-Base Breakdown Voltage ($I_C=-10\text{ uAdc}$, $I_E=0$)	$V_{(BR)CBO}$	-60	-	Vdc
Emitter-Base Breakdown Voltage ($I_E=10\text{ uAdc}$, $I_C=0$)	$V_{(BR)EBO}$	-5.0	-	Vdc
Base Cutoff Current ($V_{CE}=-30\text{ Vdc}$, $V_{EB}=-0.5\text{ Vdc}$)	I_{BL}	-	-50	nAdc
Collector Cutoff Current ($V_{CE}=-30\text{ Vdc}$, $V_{EB}=-0.5\text{ Vdc}$)	I_{CEX}	-	-50	nAdc

1. Device Mounted FR4 glass epoxy printed circuit board using the minimum recommended footprint.

2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	Max	Unit
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On Characteristics

DC Current Gain ($I_C = -100\mu\text{A}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -1.0\text{mA}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -10\text{mA}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -150\text{mA}$, $V_{CE} = -10\text{Vdc}$) ($I_C = -500\text{mA}$, $V_{CE} = -10\text{Vdc}$)	H_{FE}	75 100 100 100 50	- - - 300 -	-
Collector-Emitter Saturation Voltage ($I_C = -150\text{mA}$, $I_B = -15\text{mA}$) ($I_C = -500\text{mA}$, $I_B = -50\text{mA}$)	$V_{CE(sat)}$	- -	-0.4 -1.6	Vdc
Base-Emitter Saturation Voltage ($I_C = 150\text{mA}$, $I_B = 15\text{mA}$) ($I_C = 500\text{mA}$, $I_B = 50\text{mA}$)	$V_{BE(sat)}$	- -	-1.3 -2.6	Vdc

Small-signal Characteristics

Current-Gain-Bandwidth Product ($I_C = -50\text{mA}$, $V_{CE} = -20\text{Vdc}$, $f = 100\text{MHz}$)	f_T	200	-	MHz
Output Capacitance ($V_{CB} = -10\text{Vdc}$, $I_E = 0$, $f = 1.0\text{MHz}$)	C_{obo}	-	8.0	pF
Input Capacitance ($V_{EB} = -2.0\text{Vdc}$, $I_C = 0$, $f = 1.0\text{MHz}$)	C_{ibo}	-	30	pF

Switching Characteristics

Turn-On Time	(Vcc = -30 Vdc, Ic = -150 mA, IB1 = -15 mA)	t_{off}	-	45	ns
Delay Time		t_d	-	10	
Rise Time		t_r	-	40	
Turn-Off Time		t_{off}	-	100	

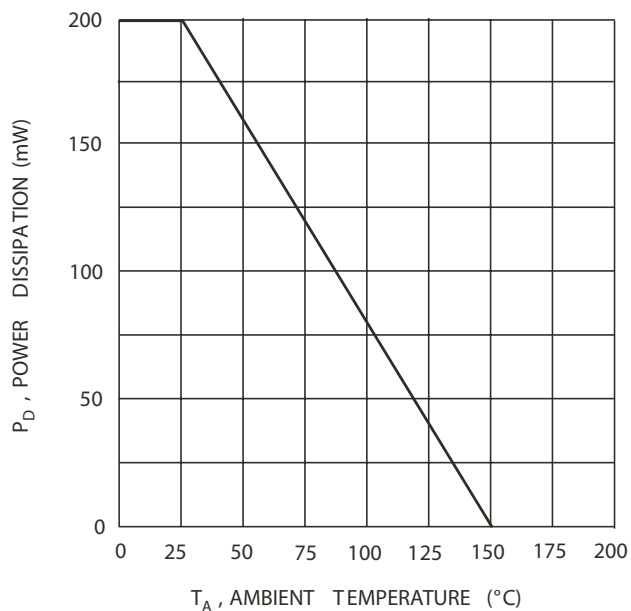


FIG.1 Max Power Dissipation vs Ambient Temperature

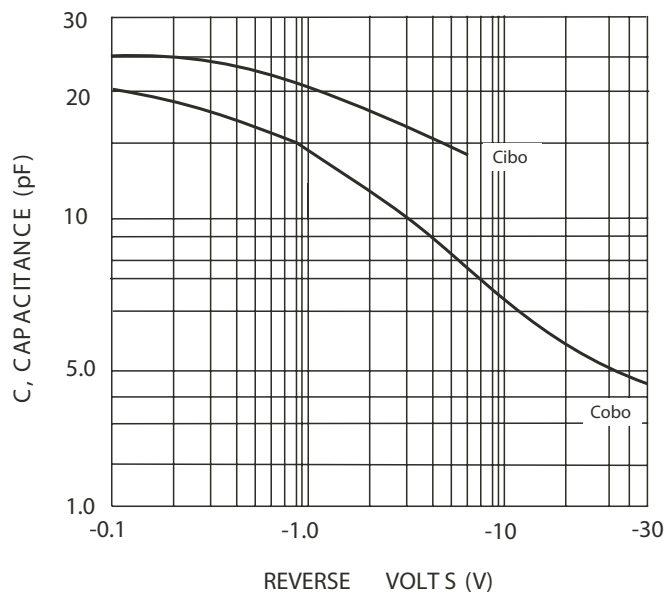


FIG.2 Typical Capacitance

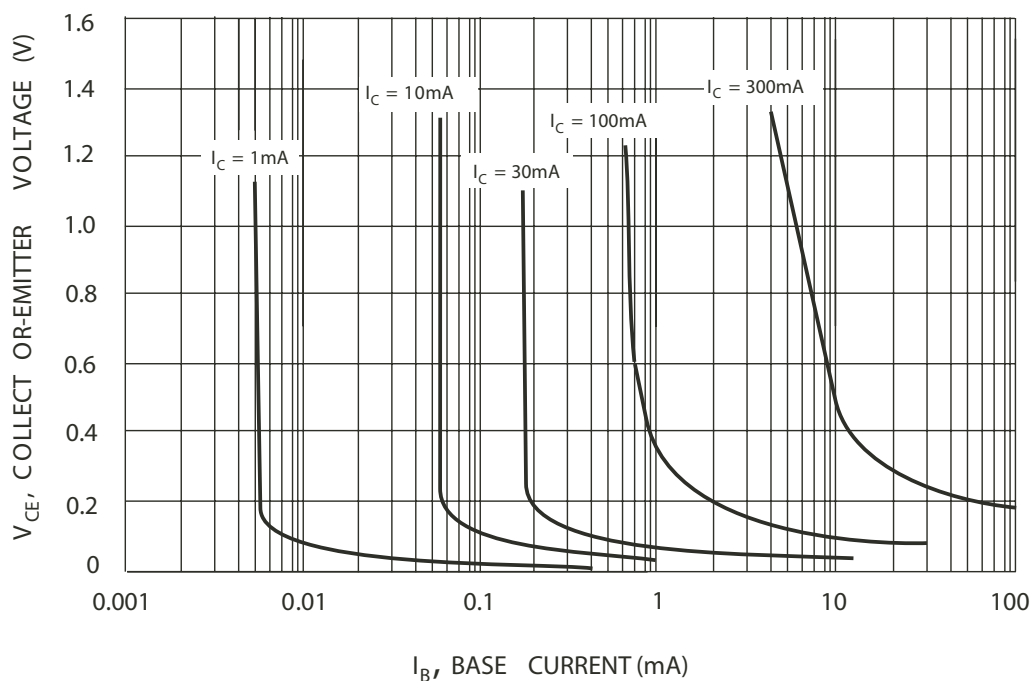


FIG.3 Typical Collector Saturation Region

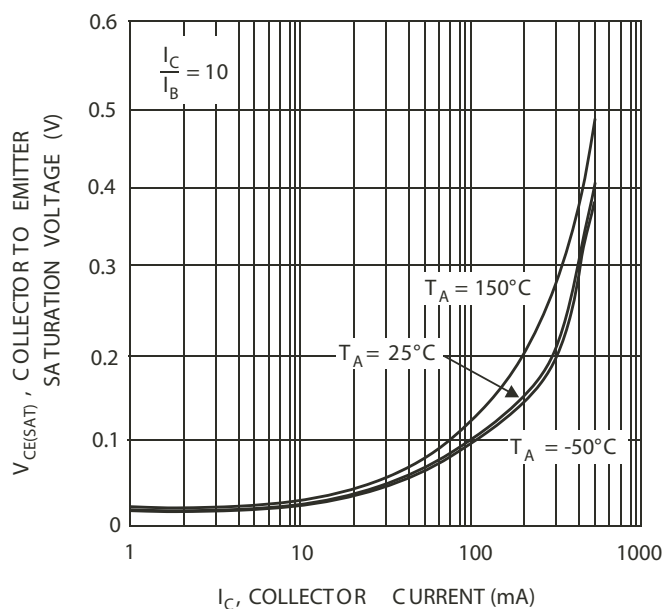


FIG.4 Collector Emitter Saturation Voltage vs Collector Current

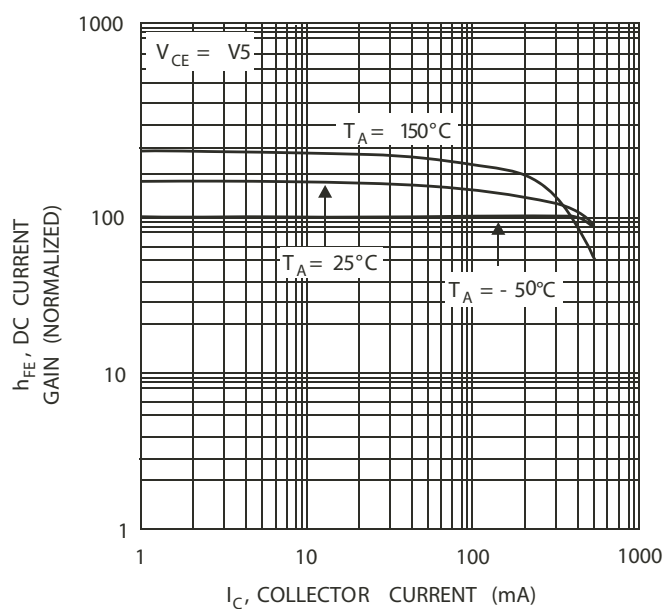


FIG.5 DC Current vs Collector Current

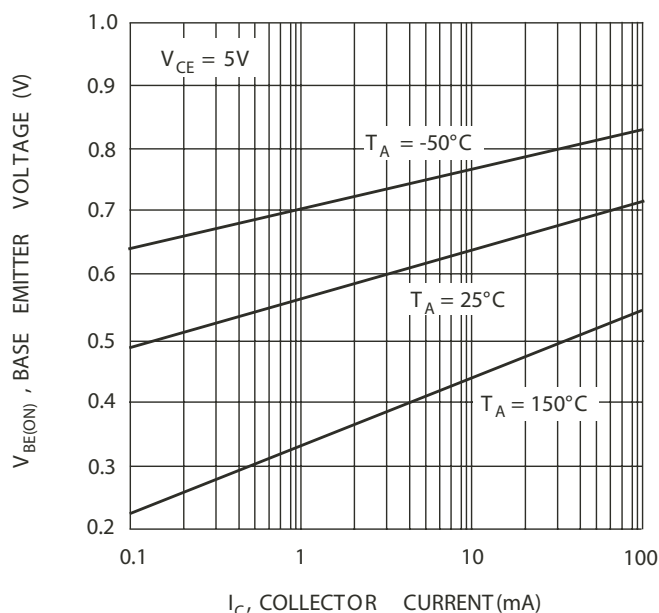


FIG.6 Base Emitter Voltage vs Collector Current

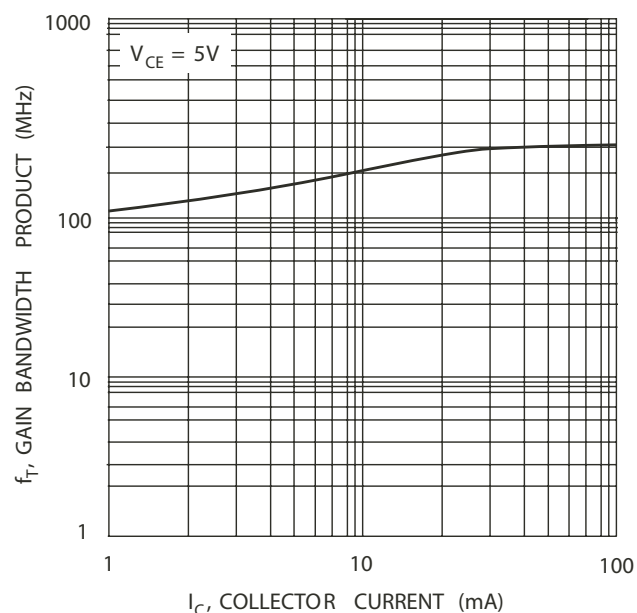
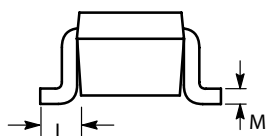
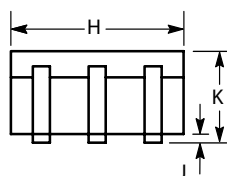
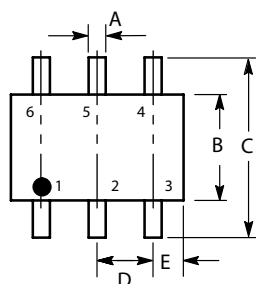


FIG.7 Gain Bandwidth Product vs Collector Current

SOT-363 Package Outline Dimensions

Unit:mm



SOT-363

Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 REF	
E	0.30	0.40
H	1.80	2.20
J	-	0.10
K	0.80	1.10
L	0.25	0.40
M	0.10	0.25