

PNP Transistor

-60V -0.6A 350mW SOT-23

MMBT2907A

MERITEK

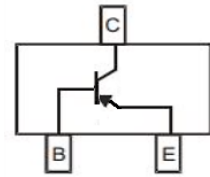
FEATURE

- Silicon Planar Design For High Voltage Application
- Collector-emitter Voltage $V_{CE}=-60V$
- Collector current: -600mA
- Silicon Planar Design For High Voltage Application
- Application: Signal Processing, Switching, Amplification



MECHANICAL DATA

- Case: SOT-23 molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026



MAXIMUM RATING

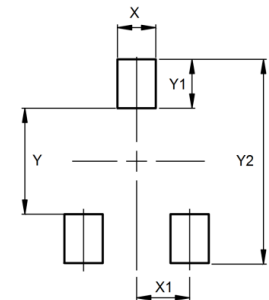
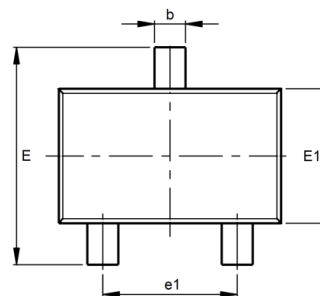
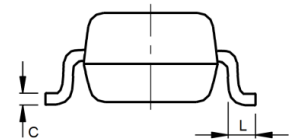
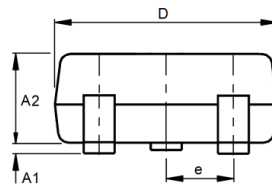
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Power Dissipation	P_{tot}	350	mW
Junction Temperature and Storage Temperature Range	T_J, T_{stg}	-55 ~+150	°C

Note:

1. $T_A=25^\circ\text{C}$ unless otherwise noted

DIMENSIONS

SOT-23	Min (mm)	Max (mm)
A1	--	0.10
A2	0.79	1.30
b	0.30	0.50
C	0.08	0.20
D	2.70	3.10
e1	1.78	2.04
E	2.10	2.80
E1	1.20	1.60
L	0.15	--



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ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	$V_{CE} = -10V, I_C = -0.1mA$	h_{FE}	75	-	-
	$V_{CE} = -10V, I_C = -1.0mA$		100	-	
	$V_{CE} = -10V, I_C = -10mA$		100	-	
	$V_{CE} = -100V, I_C = -150mA$		100	300	
	$V_{CE} = -10V, I_C = -500mA$		50	-	
Collector-Emitter Saturation Voltage	$I_C = -150mA, I_B = -15mA$	$V_{CE(SAT)}$	-	-0.4	V
	$I_C = -500mA, I_B = -50mA$		-	-1.6	V
Base-Emitter Saturation Voltage	$I_C = -150mA, I_B = -15mA$	$V_{BE(SAT)}$	-	-1.3	V
	$I_C = -500mA, I_B = -50mA$		-	-2.6	V
Parameter- OFF Characteristics	Conditions	Symbol	Min.	Max.	Unit
Collector-Base Breakdown Voltage	$I_C = -10\mu A, I_B = 0$	$V_{(BR)CBO}$	-60	-	V
Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	$V_{(BR)CEO}$	-60	-	V
Emitter-Base Breakdown Voltage	$I_E = -10\mu A, I_C = 0$	$V_{(BR)EBO}$	-5.0	-	V
Collector Base Cut-Off Current	$V_{CB} = -50V, I_E = 0,$	I_{CBO}	-	-10	nA
Collector-Base Capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$	C_{CBO}	-	8.0	pF
Turn-on Time	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA$	t_{on}	-	45	nS
Delay Time		t_d	-	10	nS
Rise Time		t_r	-	40	nS
Turn-off Time		t_{off}	-	100	nS
Storage Time		t_s	-	80	nS
Fall Time		t_f	-	30	nS
$V_{CC} = -6V, I_C = -150mA, I_{B1} = I_{B2} = -15mA$					
Parameter-Small Signal	Conditions	Symbol	Min.	Max.	Unit
Current-Gain – Bandwidth Product	$I_C = -50mA, V_{CE} = -20V, f = 100MHz$	f_T	200	-	MHz

Note:

1. $T_A = 25^\circ C$ unless otherwise noted

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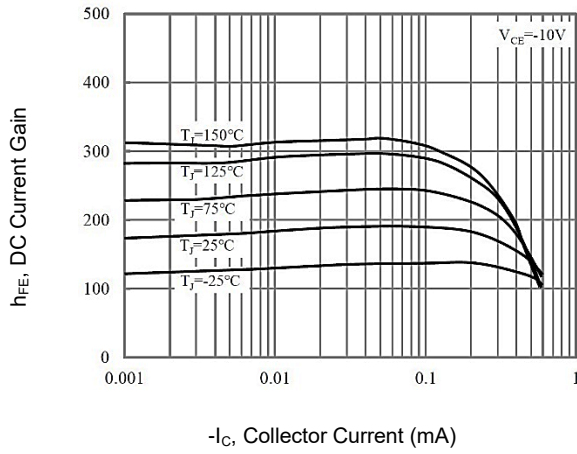
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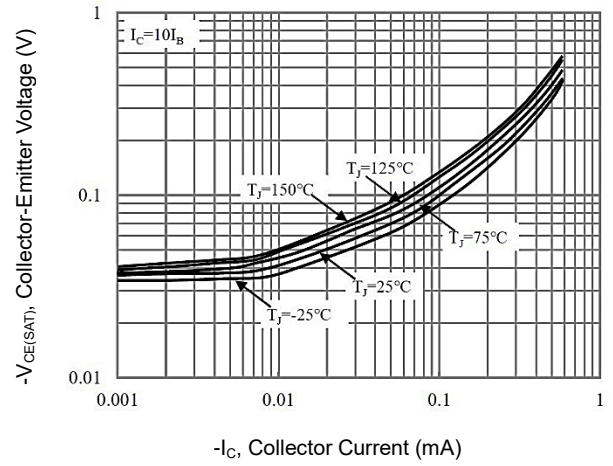
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CHARACTERISTIC CURVES

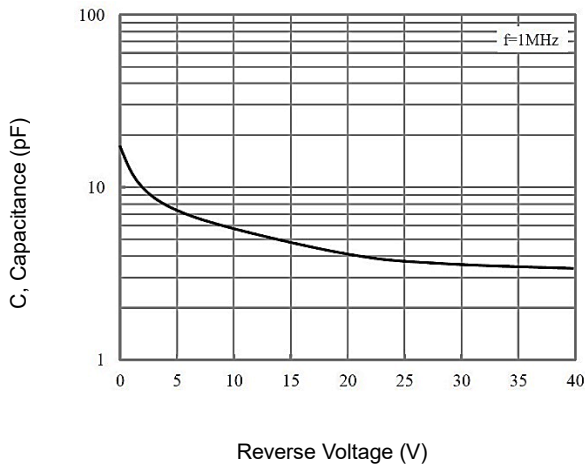
Current Gain Vs Collector Current



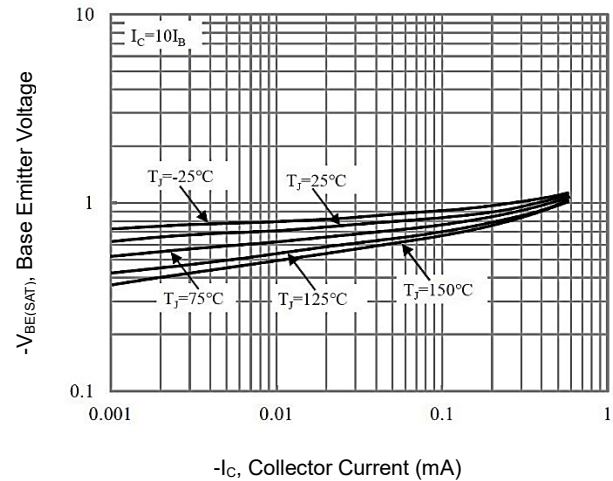
$V_{CE(SAT)}$ Voltage vs Collector Current



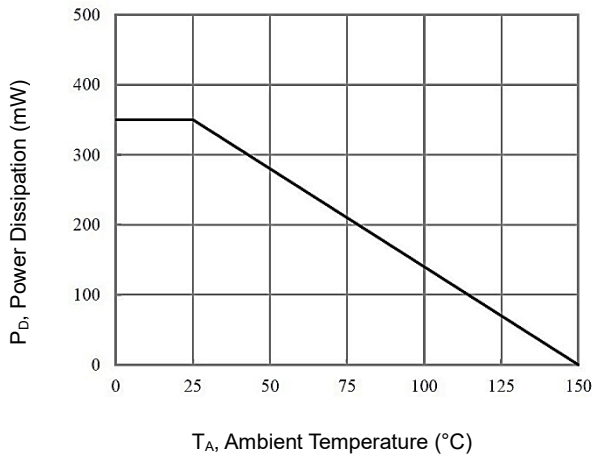
Capacitance



$V_{BE(SAT)}$ Voltage vs Collector Current



Power Derating Curves



V_{BE} Voltage vs Collector Current

