PNP Transistor
225mW SOT-323

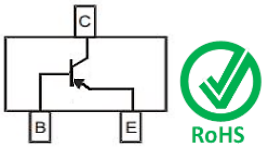
MMBT2907AW

MERITEK

FEATURE

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

MECHANICAL DATA



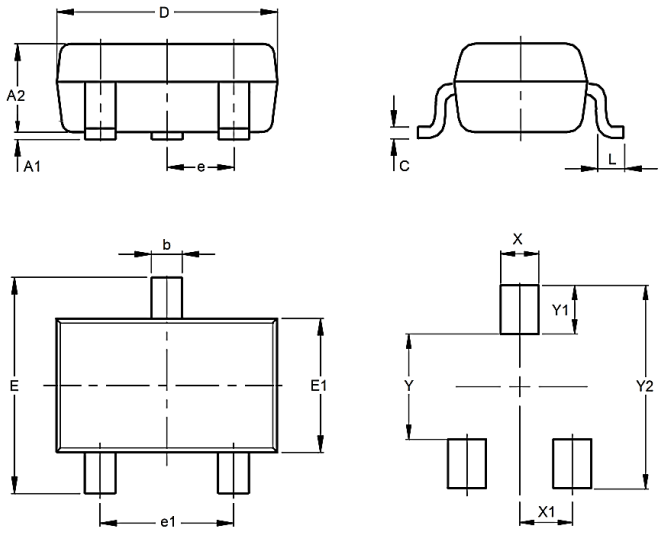
- Case: SOT-323, molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026

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}	-5.0	V
Collector Current	I_C	-600	mA
Power Dissipation	P_{tot}	225	mW
Typical Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature and Storage Temperature Range	T_J, T_{stg}	-55 ~+150	°C

DIMENSIONS

SOT-323	Min (mm)	Max (mm)
A1	0.00	0.10
A2	0.80	1.10
b	0.20	0.40
c	0.05	0.15
D	1.80	2.20
e	0.60	0.70
e1	1.20	1.40
E	2.00	2.20
E1	1.15	1.35
L	0.10	--
X	0.66	
X1	0.65	
Y	0.99	
Y1	0.86	
Y2	2.71	



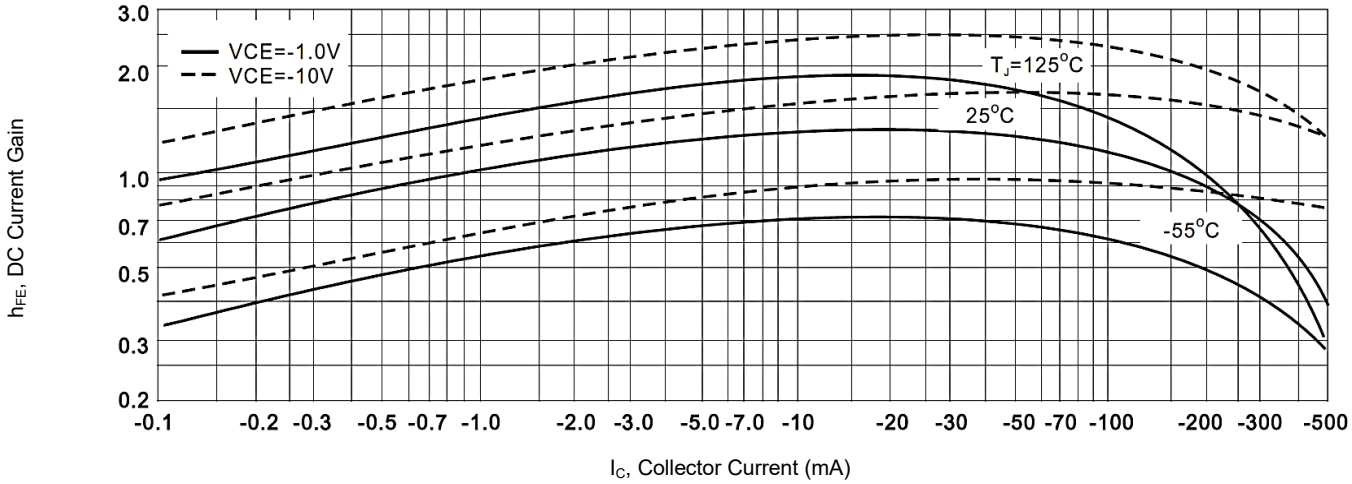
ELECTRICAL CHARACTERISTICS

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}=-10V, 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=-10μA, I_E=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=-10μA, I_C=0	$V_{(BR)EBO}$	-5.0	-	V
Base Cut-Off Current	V_{CE}=-30V, V_{EB}=-0.5V	I_{BL}	-	-50	nA
Collector Emitter Cut-Off Current	V_{CE}=-30V, V_{EB}=-0.5V	I_{CEX}	-	-50	nA
Collector Base Cut-Off Current	V_{CE}=-50V, I_E=0	I_{CBO}	-	-10	nA
	V_{CE}=-50V, I_E=0, T_J =125°C		-	-10	μA
Collector-Base Capacitance	V_{CB}=-10V, I_E=0, f=1MHz	C_{CBO}	-	8.0	pF
Emitter-Base Capacitance	V_{CB}=-2V, I_C=0, f=1MHz	C_{EBO}	-	30	pF
Turn-on Time	V_{CC}=-30V, V_{BE}=-0.5V I_C=-150mA, I_B=-15mA	t_{on}	-	45	nS
Delay Time		t_d		10	nS
Rise Time		t_r	-	40	nS
Turn-off Time	V_{CC}=-6V, IC=-150mA, I_{B1}=I_{B2}=-15mA	t_{off}	-	100	nS
Storage Time		t_s		80	nS
Fall Time		t_f	-	30	nS
Parameter-Small Signal	**Conditions**	**Symbol**	**Min.**	**Max.**	**Unit**
Current-Gain – Bandwidth Product	I_C=-50mA, V_{CE}=-20V, f=100MHz	f_T	200	-	MHz

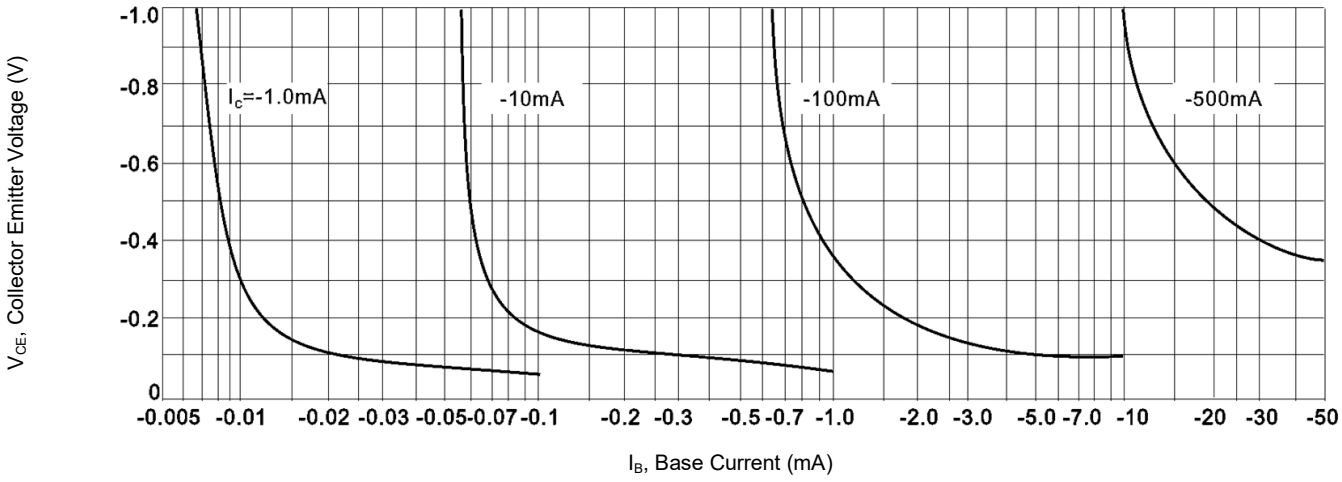
Note:
1. T_A=25˚C unless otherwise noted
2. Device on FR-5 = 1.0 x 0.75 x 0.062 in.

CHARACTERISTIC CURVES

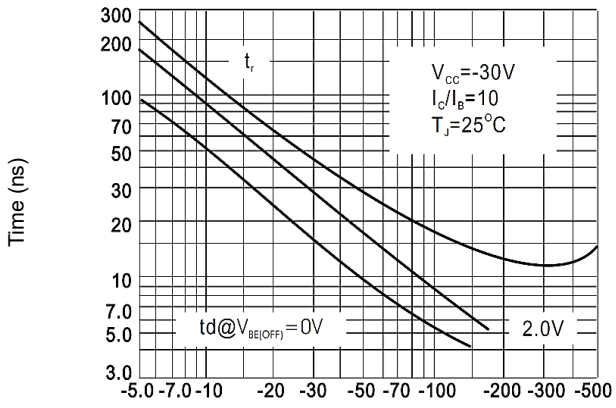
DC Current Gain



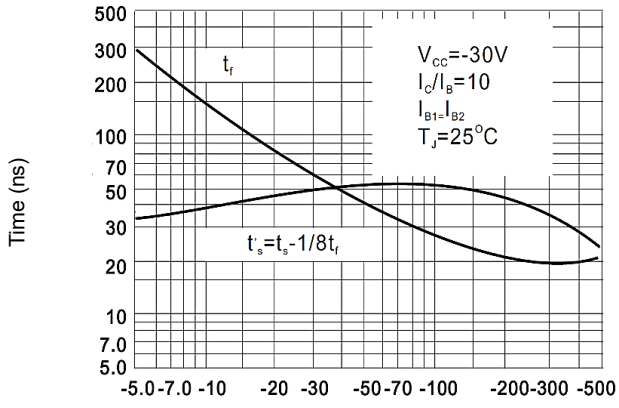
Collector Saturation Region



Turn-On time

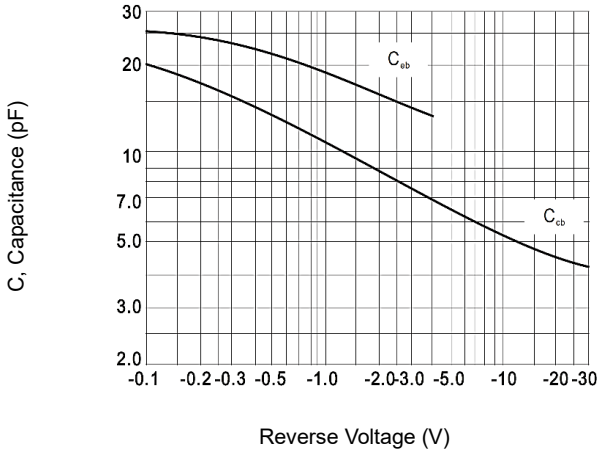


Turn-Off time

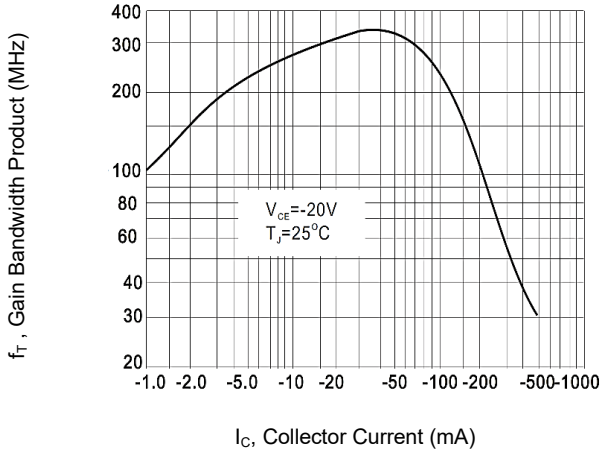


CHARACTERISTIC CURVES

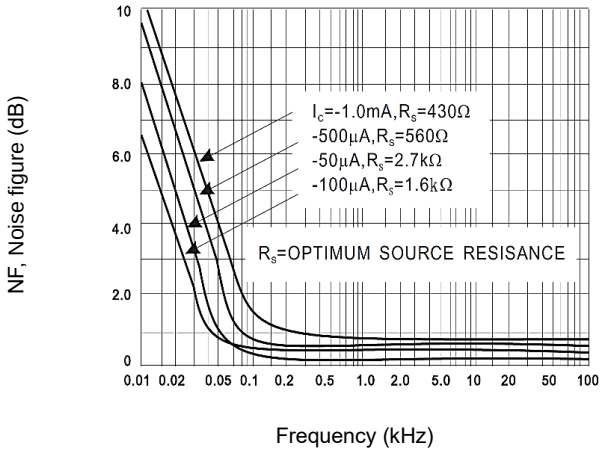
Capacitance



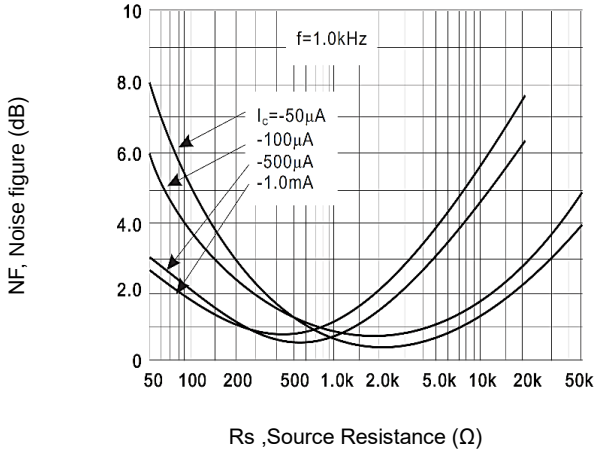
Gain Bandwidth Product



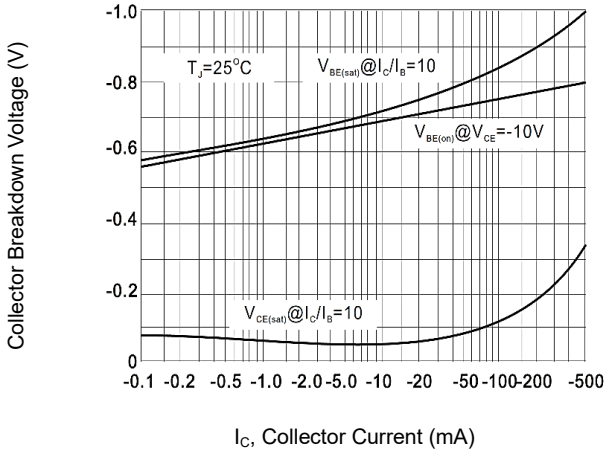
Frequency Effect



Source Resistance Effect



On Voltage



Temperature Coefficient