DATA SHEET

MMBT2907A

GENERAL PURPOSE TRANSISTOR PNP

VOLTAGE **-60 Volts** **POWER** **300 mW**

FEATURES

- HIGH DC CURRENT GAIN.
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE BOTH NORMAL AND PB-FREE PACKAGE ARE AVAILABLE.
- LEAD FREE AND HALOGEN-FREE

MECHANICAL DATA

- CASE：SOT-23
- TERMINAL：SOLDERABLE PER MIL-STD-202, METHOD 208
- APPROX. WEIGHT:0.008GRAM

CASE：SOT-23

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

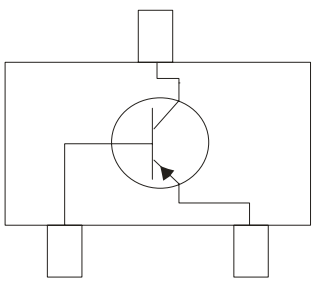
RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.

PARAMETER	SYMBOL	MMBT2907A	UNITS
COLLECTOR-EMITTER VOLTAGE	V_{CEO}	-60	V
COLLECTOR-BASE VOLTAGE	V_{CBO}	-60	V
EMITTER-BASE VOLTAGE	V_{EBO}	-5.0	V
COLLECTOR CURRENT-CONTINUOUS	I_C	-600	mA
POWER DISSIPATION @ T_A = 25˚C	P_D	300	mW
OPERATING AND STORAGE JUNCTION TEMPERATURE RANGE	T_J;T_{STG}	- 55 TO +150	˚C

NOTE:

1. Indicates Data in addition to JEDEC Requirements.

PNP



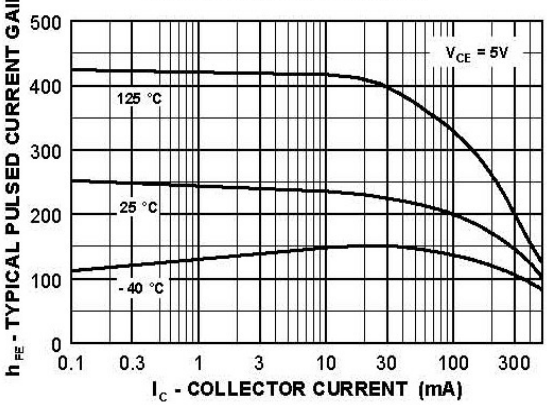
ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (AT T_A = 25˚C UNLESS OTHERWISE NOTED)					
CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN.	MAX.	UNITS
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (Note.1)	$V_{(BR)CEO}$	I_C= -10mA, I_B=0	-60	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= -10μA, I_E=0	-60	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0	-5.0	-	V
Emitter cut-off Current	I_{EBO}	V_{EB}= -3V, I_C=0	-	-0.1	μA
Collector Cut-off Current	I_{CBO}	V_{CB}= -50V, I_E=0	-	-0.1	μA
Collector Cut-off Current	I_{CEO}	V_{CE}= -3V, I_B=0	-	-0.1	μA
ON CHARACTERISTICS					
DC Current Gain	h_{FE}	V_{CE}= -10V, I_C= -0.1mA	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	$V_{CE(SAT)}$	I_C= -150mA, I_B=-15mA	-	-0.4	V
		I_C= -500mA, I_B=-50mA	-	-1.6	
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C= -150mA, I_B=-15mA	-	-1.3	V
		I_C= -500mA, I_B=-50mA	-	-2.6	
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain-Bandwidth Product	f_T	I_C= -50mA, V_{CE}=-20V, f=100 MHz	200	-	MHz
Delay Time	t_d	V_{CC}= -30V, I_C=-150mA, I_{B1}= I_{B2}= -15mA	-	10	μS
Rise Time	t_r			40	μS
Storage Time	t_s	V_{CC}= -6.0V, I_C=-150mA, I_{B1}= I_{B2}= -15mA	-	80	μS
Fall Time	t_f			30	μS

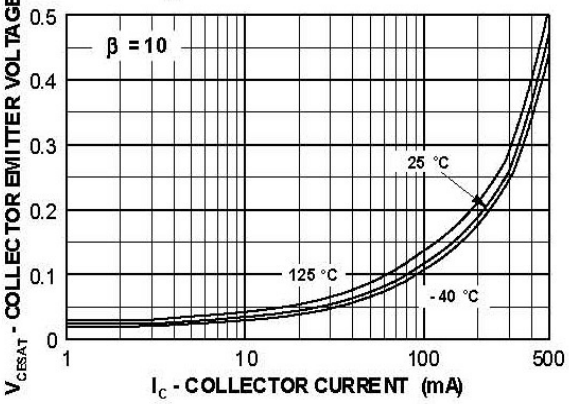
NOTE:

1.Pulse Test: Pulse Width≦300 μs; Duty Cycle≦2%.

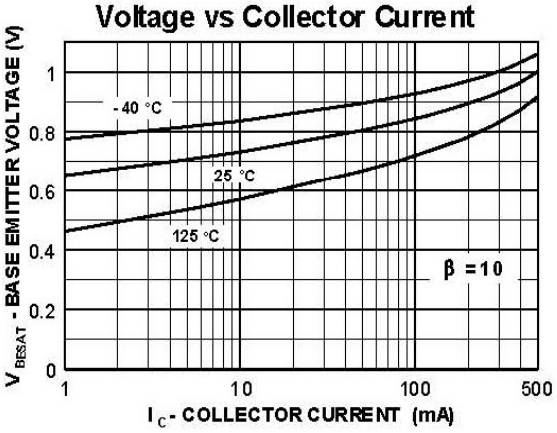
Typical Pulsed Current Gain vs Collector Current



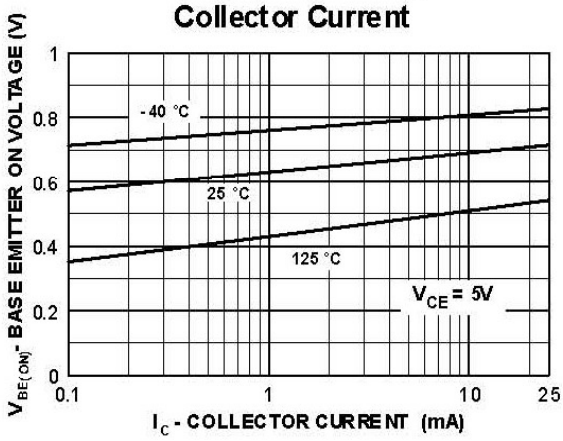
Collector-Emitter Saturation Voltage vs Collector Current



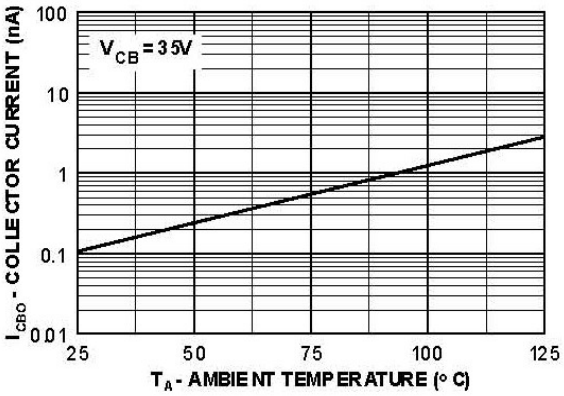
Base-Emitter Saturation Voltage vs Collector Current



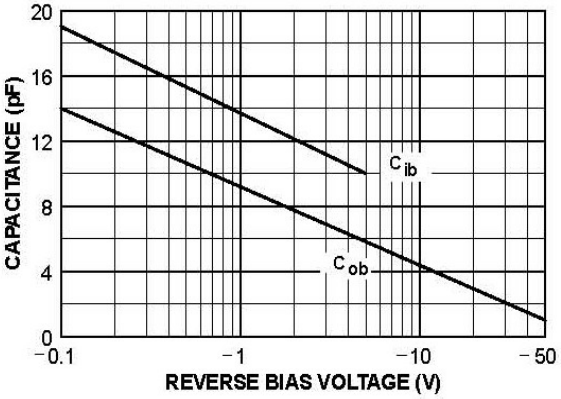
Base Emitter ON Voltage vs Collector Current



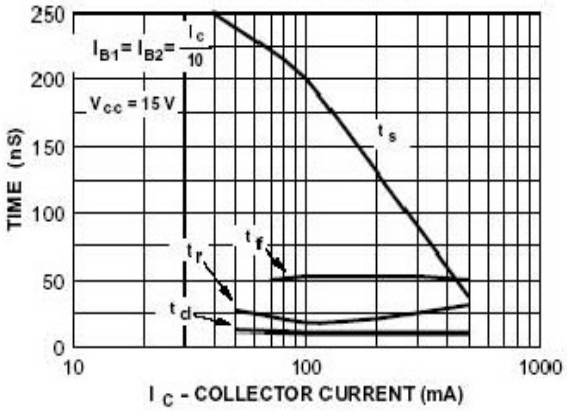
Collector-Cutoff Current vs Ambient Temperature



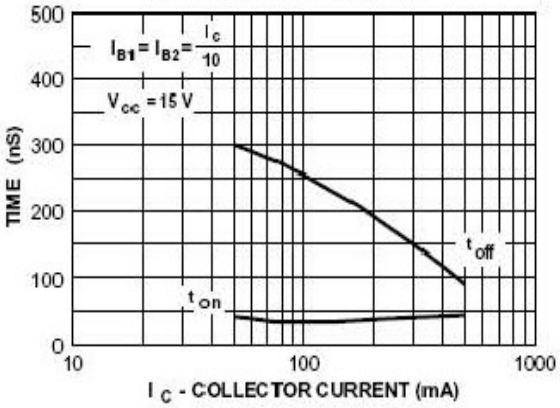
Input and Output Capacitance vs Reverse Bias Voltage



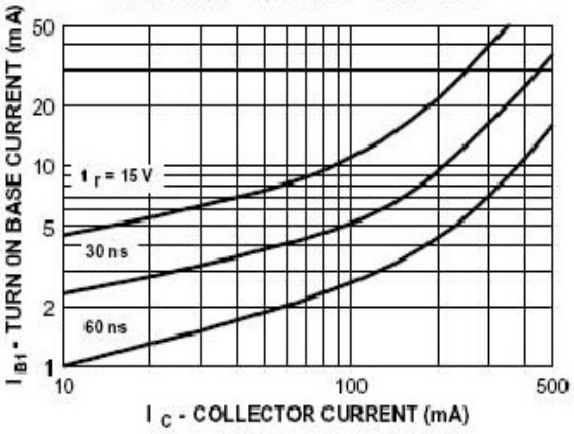
Switching Times vs Collector Current



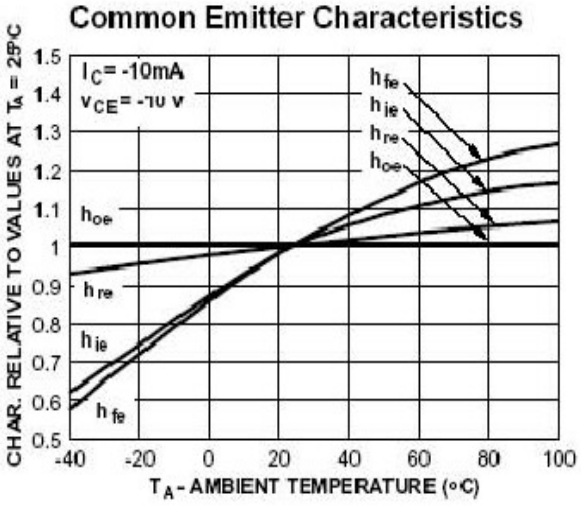
Turn On and Turn Off Times vs Collector Current



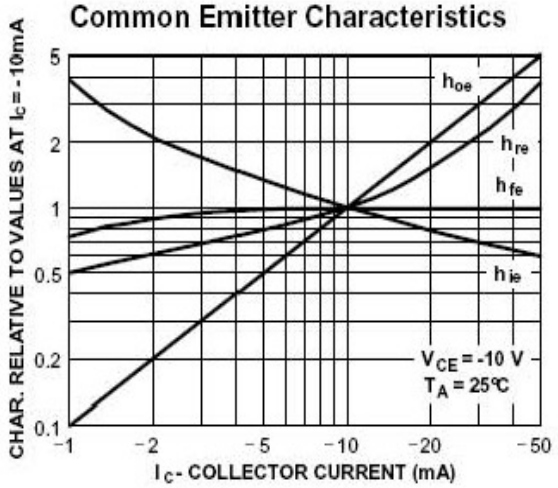
Rise Time vs Collector and Turn On Base Currents



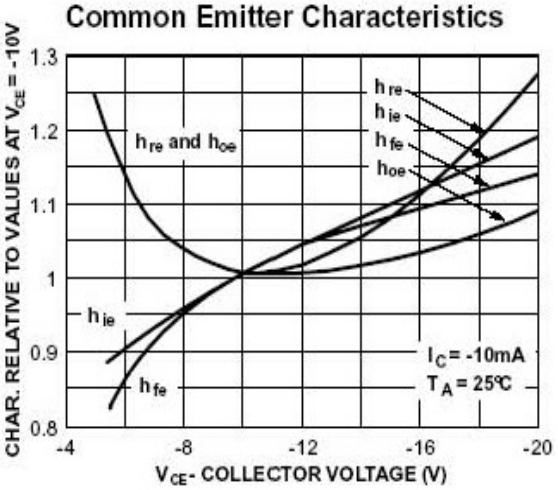
Common Emitter Characteristics



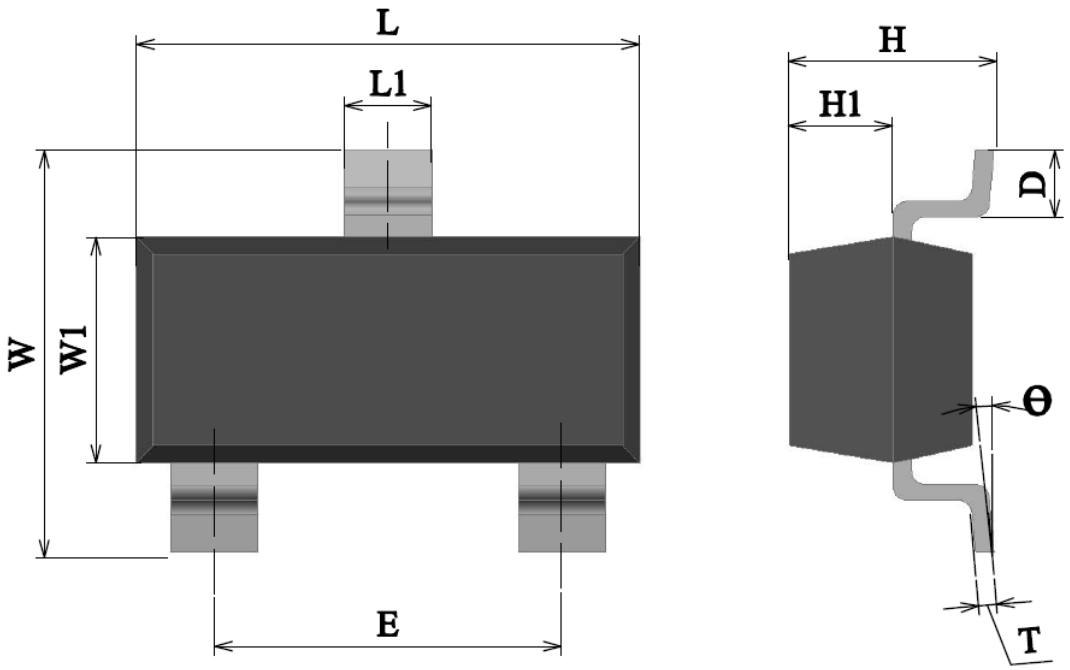
Common Emitter Characteristics



Common Emitter Characteristics



SOT-23 DIMENSION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
L	2.80	3.10	0.110	0.122
L1	0.30	0.50	0.012	0.020
W	2.25	2.54	0.089	0.100
W1	1.20	1.40	0.047	0.055
E	1.80	2.00	0.071	0.079
H	0.90	1.15	0.035	0.045
H1	0.40	0.80	0.016	0.031
D	0.30	0.50	0.012	0.020
T	0.08	0.15	0.003	0.006
θ	0°	8°	0 °	8°

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