MMBT2907A

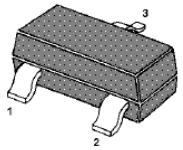
PNP TRANSISTOR

康 比 電 子
HORNBY ELECTRONIC

FEATURES

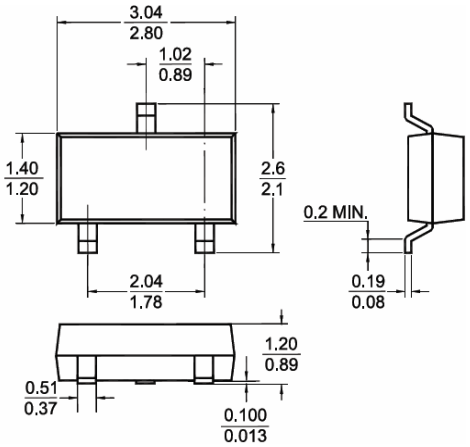
· The transistor is subdivided into one group according to its DC current gain.

· Suffix "H" indicates Halogen-free parts, ex. MMBT2907AH



1. Base 2. Emitter 3. Collector

SOT-23



Dimensions in millimeter

Maximum Ratings(T_A =25 ℃ unless otherwise noted)

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
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Electrical Characteristics(T_A =25 ℃ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	$-I_C$ = 0.1 mA, $-V_{CE}$ = 10 V	h_{FE}	75	-	-
	$-I_C$ = 1 mA, $-V_{CE}$ = 10 V		100	-	
	$-I_C$ = 10 mA, $-V_{CE}$ = 10 V		100	-	
	$-I_C$ = 150 mA, $-V_{CE}$ = 10 V		100	300	
	$-I_C$ = 500 mA, $-V_{CE}$ = 10 V		50	-	
Collector Base Cutoff Current	$-V_{CB}$ = 50 V	$-I_{CBO}$	-	10	nA
Collector Base Breakdown Voltage	$-I_C$ = 10 μA	$-V_{(BR)CBO}$	60	-	V
Collector Emitter Breakdown Voltage	$-I_C$ = 10 mA	$-V_{(BR)CEO}$	60	-	V
Emitter Base Breakdown Voltage	$-I_E$ = 10 μA	$-V_{(BR)EBO}$	5.0	-	V
Collector Saturation Voltage	$-I_C$ = 150 mA, $-I_B$ = 15 mA	$-V_{CE}$(sat)	-	0.4	V
	$-I_C$ = 500 mA, $-I_B$ = 50 mA		-	1.6	
Base Saturation Voltage	$-I_C$ = 150 mA, $-I_B$ = 15 mA	$-V_{BE}$(sat)	-	1.3	V
	$-I_C$ = 500 mA, $-I_B$ = 50 mA		-	2.6	

Electrical Characteristics(T_A =25 ℃ unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Max.	Unit
Gain Bandwidth Product	$-I_C$ = 50 mA , $-V_{CE}$ = 20 V, f = 100 MHz	f_T	200	-	MHz
Collector Output Capacitance	$-V_{CB}$ = 10 V, f = 1 MHz	C_{ob}	-	8.0	pF
Turn-on Time	$-V_{CC}$ = 30 V, $-I_C$ = 150 mA, $-I_{B1}$ = 15 mA	t_{on}	-	45	nS
Delay Time	$-V_{CC}$ = 30 V, $-I_C$ = 150 mA, $-I_{B1}$ = 15 mA	t_d	-	10	nS
Rise Time	$-V_{CC}$ = 30 V, $-I_C$ = 150 mA, $-I_{B1}$ = 15 mA	t_r	-	40	nS
Turn-off Time	$-V_{CC}$ = 6 V, $-I_C$ = 150 mA, $-I_{B1}$ = $-I_{B2}$ = 15 mA	t_{off}	-	100	nS
Storage Time	$-V_{CC}$ = 6 V, $-I_C$ = 150 mA, $-I_{B1}$ = $-I_{B2}$ = 15 mA	t_s	-	80	nS
Fall Time	$-V_{CC}$ = 6 V, $-I_C$ = 150 mA, $-I_{B1}$ = $-I_{B2}$ = 15 mA	t_f	-	30	nS

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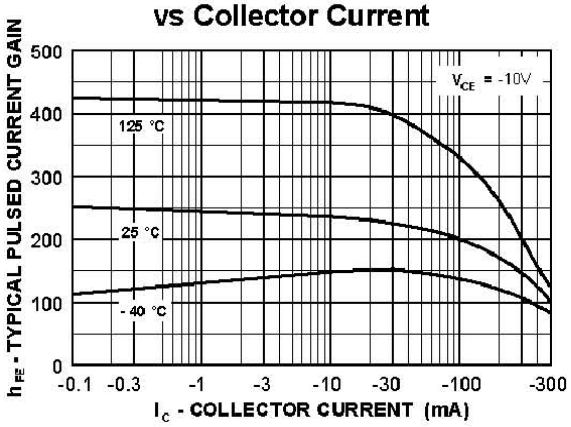
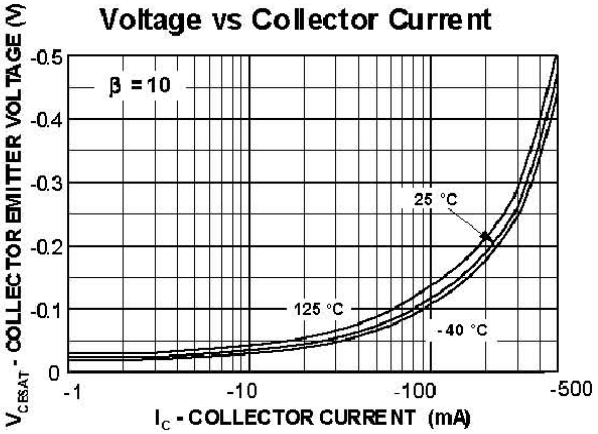
RATINGS AND CHARACTERISTIC CURVES

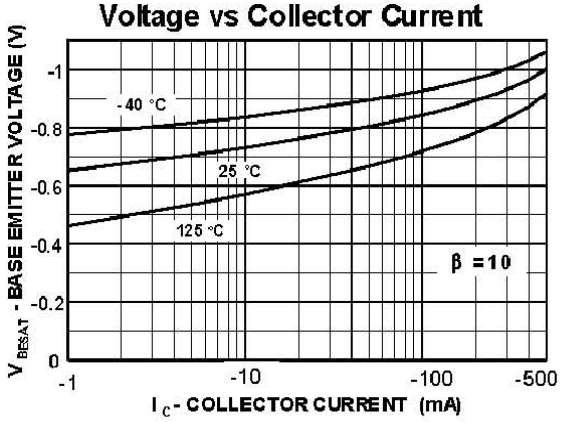
Typical Pulsed Current Gain vs Collector Current



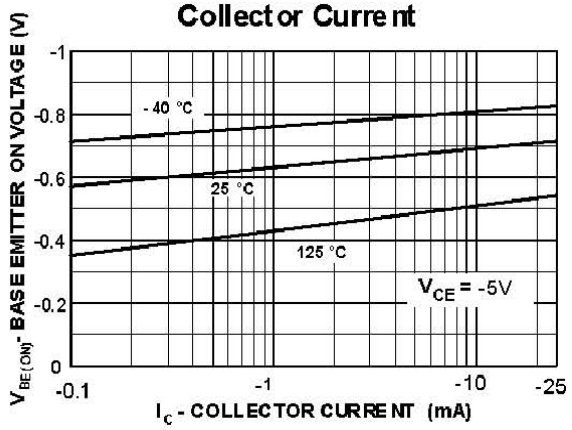
Collector-Emitter Saturation Voltage vs Collector Current



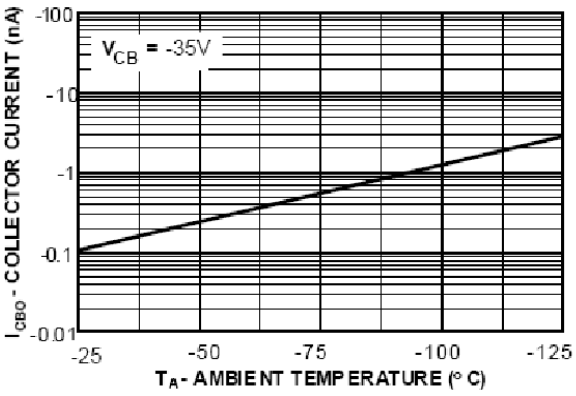
Base-Emitter Saturation Voltage vs Collector Current



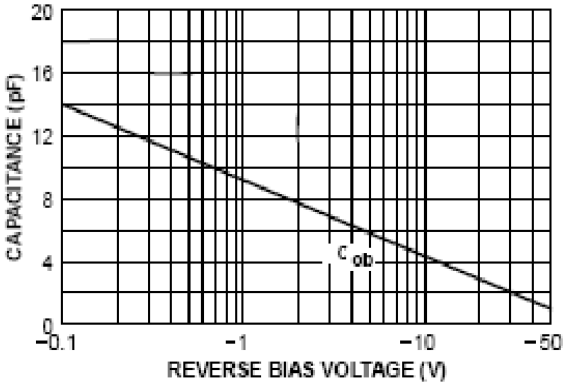
Base Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature



Input and Output Capacitance vs Reverse Bias Voltage



P_C-T_a