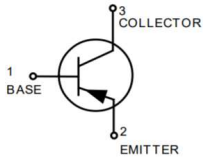
MMBT2907AH

PNP TRANSISTOR

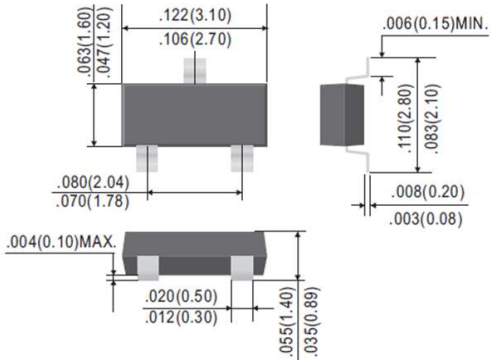
FEATURES

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

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



SOT-23



Dimensions in inch and (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	V
Collector Current	I_C	-600	mA
Power Dissipation	P_{tot}	350	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=-0.1mA, V_{CE}=-10V	h_{FE}	75	-	-
	I_C=-1mA, V_{CE}=-10V		100	-	
	I_C=-10mA, V_{CE}=-10V		100	-	
	I_C=-150mA, V_{CE}=-10V		100	300	
	I_C=-500mA, V_{CE}=-10 V		50	-	
Collector Base Cutoff Current	V_{CB}=-50 V	I_{CBO}	-	-10	nA
Collector Base Breakdown Voltage	I_C=-10μA	$V_{(BR)CBO}$	-60	-	V
Collector Emitter Breakdown Voltage	I_C=-10mA	$V_{(BR)CEO}$	-60	-	V
Emitter Base Breakdown Voltage	I_E=-10μA	$V_{(BR)EBO}$	-5	-	V
Collector Saturation Voltage	I_C=-150mA, I_B=-15mA	V_{CE}(sat)	-	-0.4	V
	I_C=-500mA, I_B=-50mA		-	-1.6	
Base Saturation Voltage	I_C=-150mA, I_B=-15mA	V_{BE}(sat)	-	-1.3	V
	I_C=-500mA, I_B=-50 mA		-	-2.6	

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Electrical Characteristics(T_A=25 ℃ unless otherwise specified)

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

RATINGS AND CHARACTERISTIC CURVES

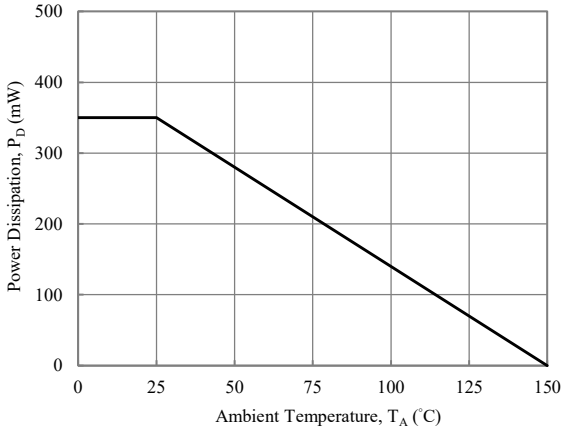

Fig. 1-Power Derating Curves

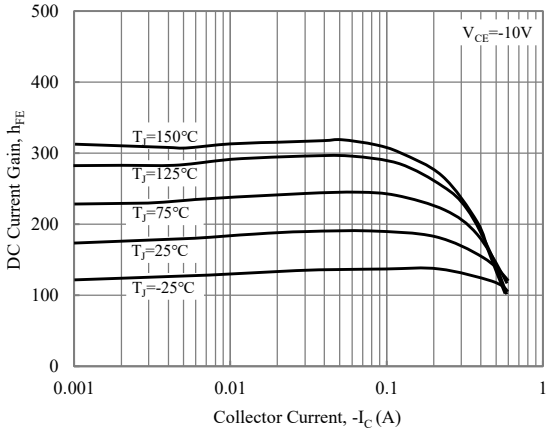

Fig. 2-Current Gain vs Collector Current

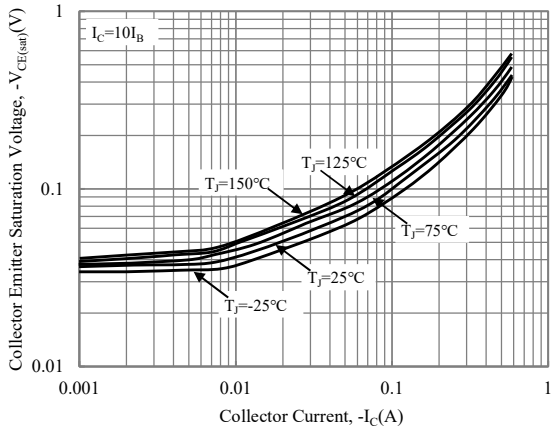

Fig. 3-Collector Emitter Saturation Voltage vs Collector Current

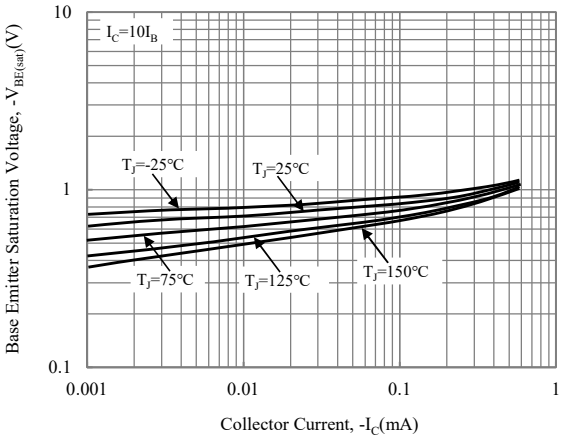

Fig. 4-Base Emitter Saturation Voltage vs Collector Current

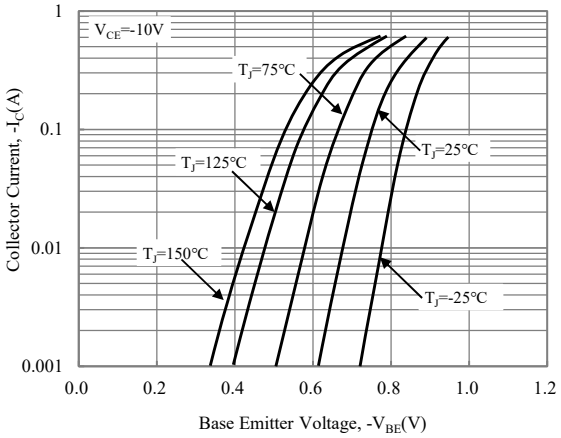

Fig. 5-Base Emitter Voltage vs Collector Current

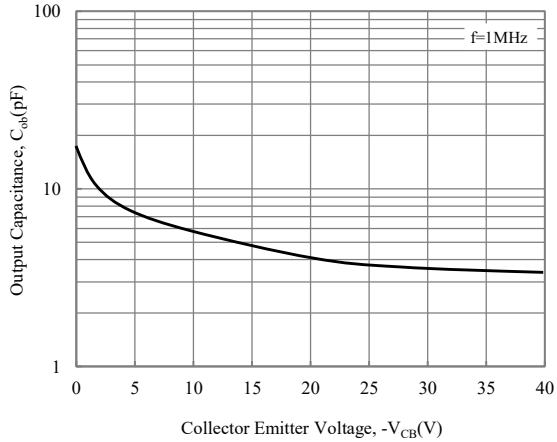

Fig. 6-Capacitance

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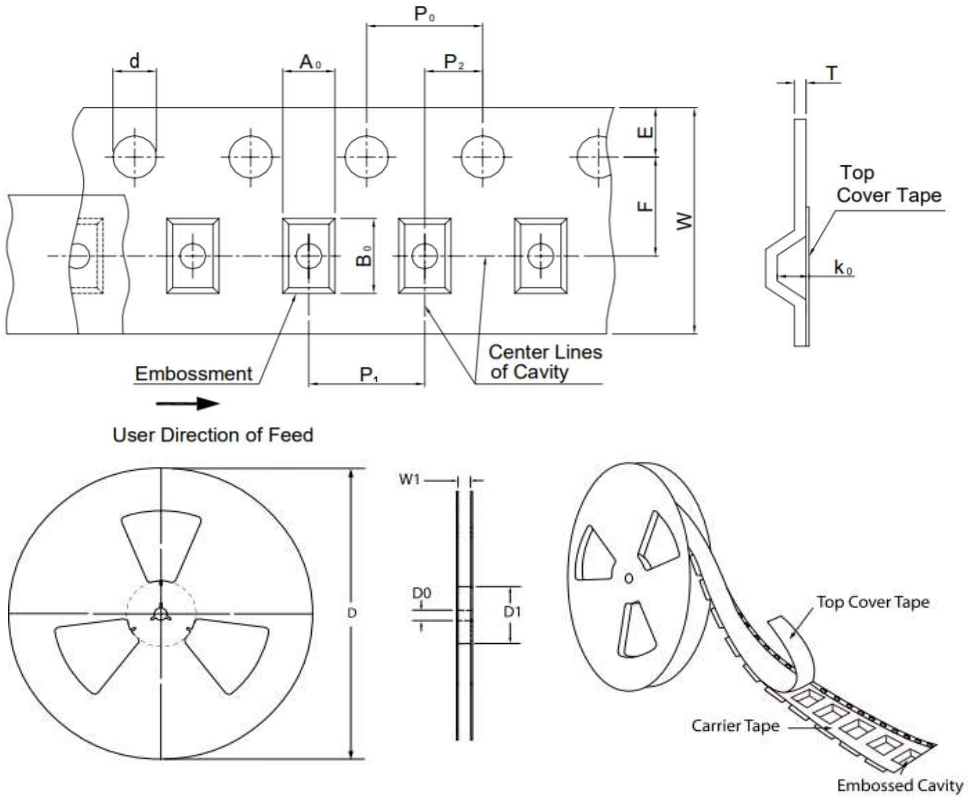
TAPE & REEL SPECIFICATION



Item	Symbol	SOT-23
Carrier width	A_0	3.20 ± 0.10
Carrier length	B_0	2.80 ± 0.10
Carrier depth	K_0	1.55 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocke hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocke hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	MAX. 0.60
Tape width	W	8.00 ± 0.30
Reel width	W1	MAX. 10.00

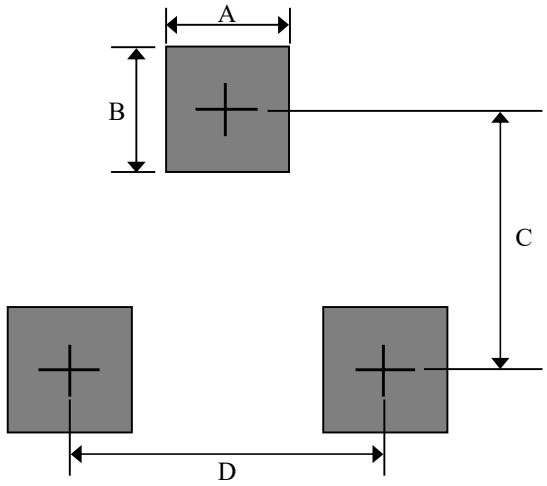
ORDER INFORMATION

Package	Reel Size	Quantity
SOT-23	7"	3,000

MARKING CODE

Part Number	Marking Code
MMBT2907AH	2F

SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOT-23	0.80	1.00	2.40	1.90