

MMBT2907AW

PNP GENERAL PURPOSE SWITCHING TRANSISTOR

VOLTAGE	60 Volts	POWER	225 mW
----------------	-----------------	--------------	---------------

SOT-323 Unit: inch (mm)

FEATURES

PNP epitaxial silicon, planar design
Collector-emitter voltage $V_{CE} = -60V$
Collector current $I_C = -600mA$
Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
Green molding compound as per IEC61249 Std. . (Halogen Free)

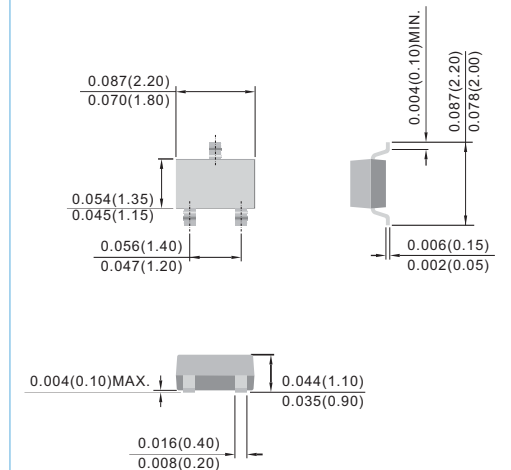
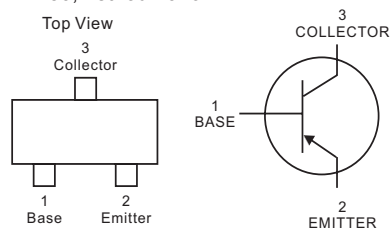
MECHANICAL DATA

Case: SOT-323

Terminals : Solderable per MIL-STD-750,Method 2026

Approx Weight: 0.0048 gram

Device Marking : M7A



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	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

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	225	mW
Storage Temperature	T_{STG}	-55 to 150	°C
Junction Temperature	T_J	-55 to 150	°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C / W

Note 1 : Transistor mounted on FR-5 board 1.0 x 0.75 x 0.062 in.

MMBT2907AW

ELECTRICAL CHARACTERISTICS (T_J=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	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
Base Cutoff Current	I _{BL}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
Collector Cutoff Current	I _{CEX}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
	I _{CBO}	V _{CE} =-50V, I _E =0	-	-	-10	nA
		V _{CE} =-50V, I _E =0	-	-	-10	μA
		T _J =125°C	-	-	-10	μA
DC Current Gain	h _{FE}	I _C =-0.1mA, V _{CE} =-10V	75	-	-	-
		I _C =-1.0mA, V _{CE} =-10V	100	-	-	
		I _C =-10mA, V _{CE} =-10V	100	-	-	
		I _C =-150mA, V _{CE} =-10V	100	-	300	
		I _C =-500mA, V _{CE} =-10V	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	
Collector-Base Capacitance	C _{CB0}	V _{CB} =-10V, I _E =0, f=1MHz	-	-	8.0	pF
Emitter-Base Capacitance	C _{EBO}	V _{CB} =-2V, I _C =0, f=1MHz	-	-	30	pF
Current Gain-Bandwidth Product	F _T	I _C =-50mA, V _{CE} =-20V, f=100MHz	200	-	-	MHz
Turn-On Time	t _{on}	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	45	ns
Delay Time	t _d	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	10	ns
Rise Time	t _r	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _{B1} =-15mA	-	-	40	ns
Turn-Off Time	t _{off}	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	100	ns
Storage Time	t _s	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	80	ns
Fall Time	t _f	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	30	ns

MMBT2907AW

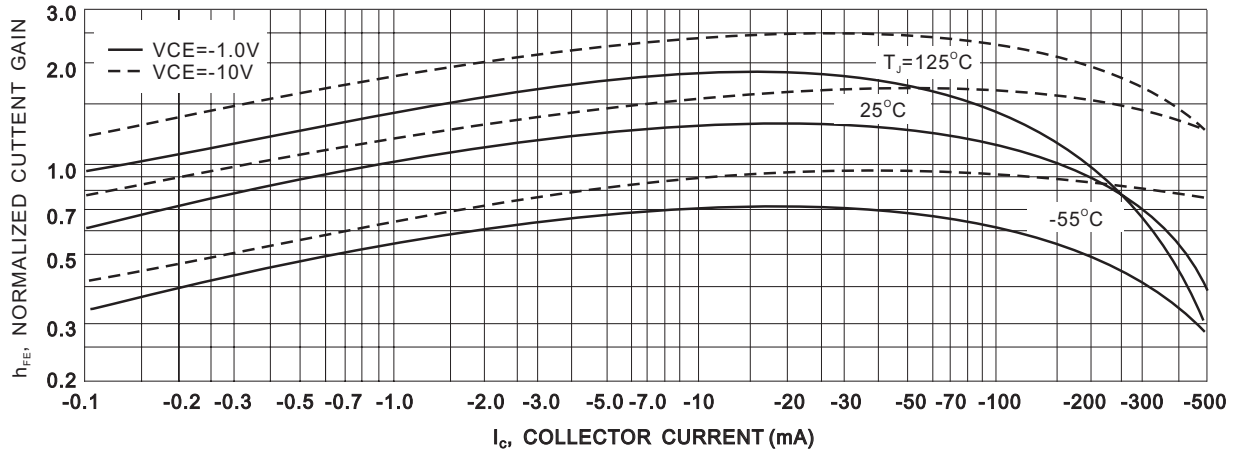


Fig.1-DC Current Gain

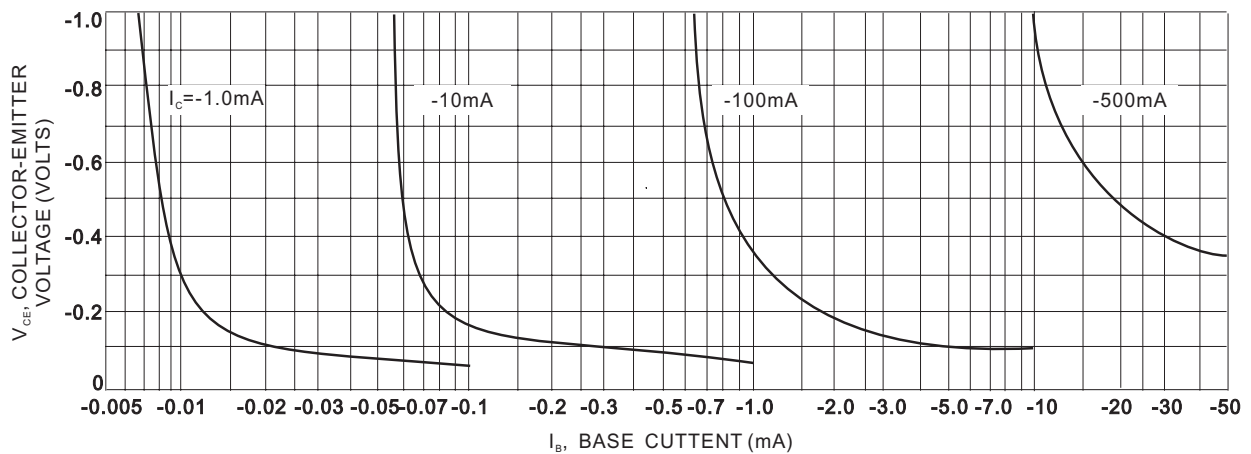


Fig.2-Collector Saturation Region

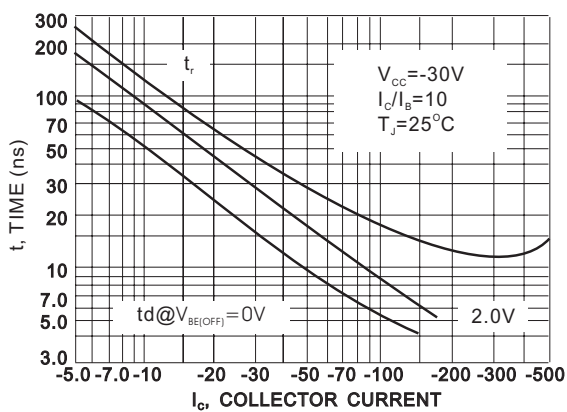


Fig.3-Turn-On Time

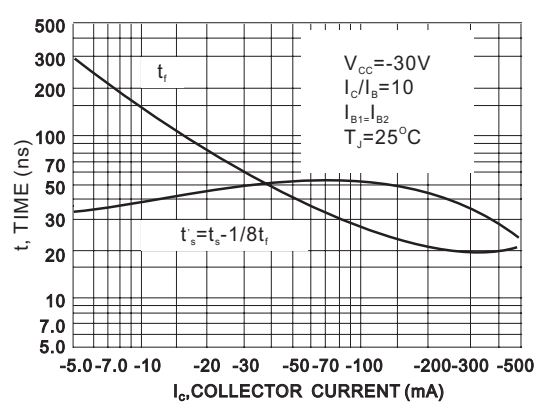
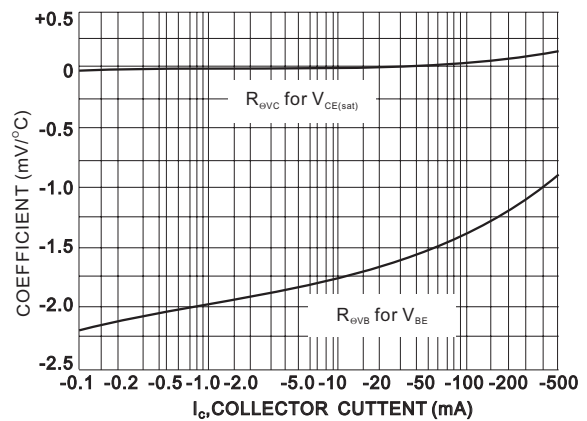
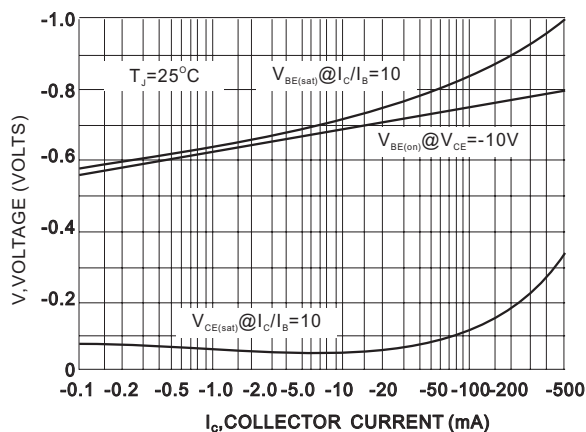
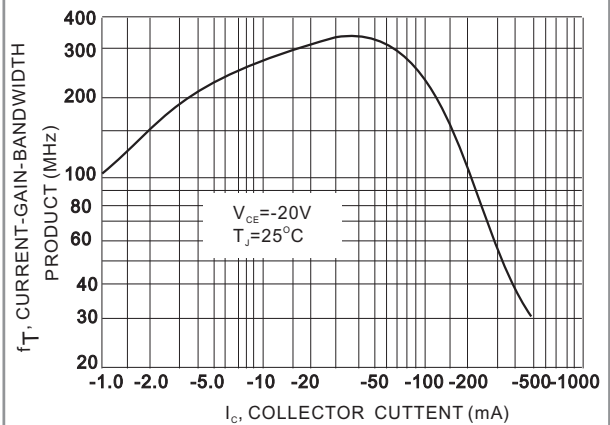
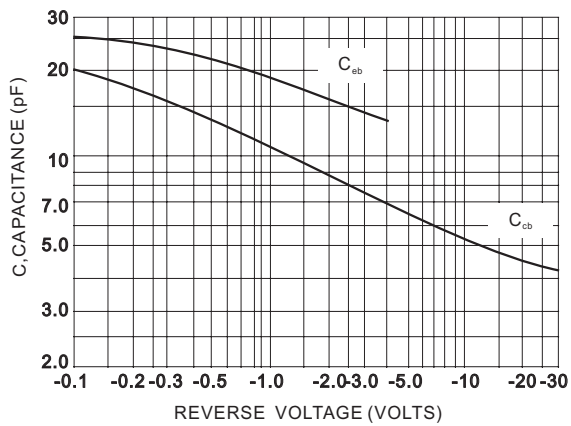
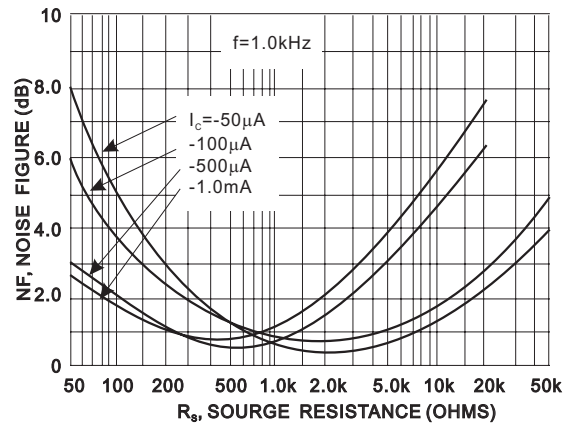
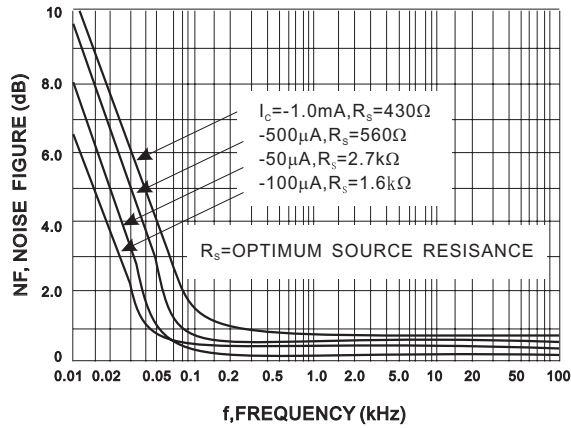


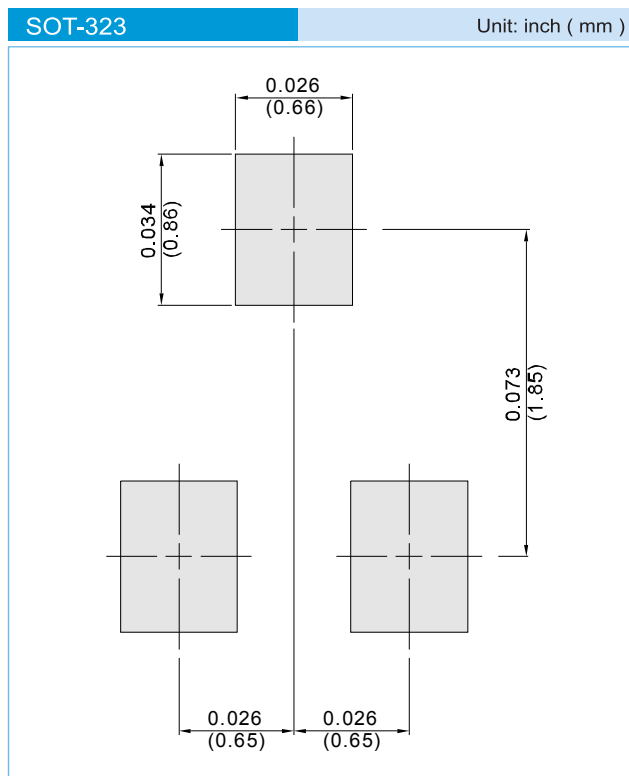
Fig.4-Turn-Off Time

MMBT2907AW



MMBT2907AW

MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information

T/R - 12K per 13" plastic Reel

T/R - 3K per 7" plastic Reel

MMBT2907AW

Part No_packing code_Version

MMBT2907AW_R1_00001

MMBT2907AW_R2_00001

For example :

RB500V-40 **R2** **00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



MMBT2907AW

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.