



MMBT2907A

PNP SILICON TRANSISTOR

DESCRIPTION

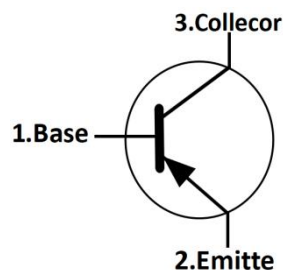
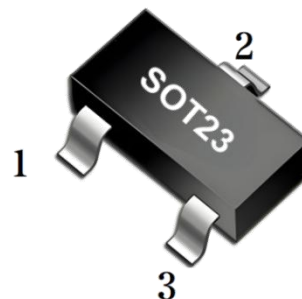
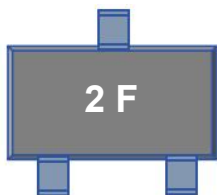
This MMBT2907A is designed for use as a general purpose amplifier and switch requiring collector currents to 600 mA.

FEATURES

- * Epitaxial planar die construction
- * Complementary NPN Type available(MMBT2222A)

MARKING

Type Code: Marking: 2F



ABSOLUTE MAXIMUM RATINGS (Tc=25°C, unless otherwise specified)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-base voltage	-60	V
V _{CE0}	Collector-emitter voltage	-60	V
V _{EB0}	Emitter-base voltage	-5	V
I _c	Collector current	-0.6	A
P _c	Collector Power Dissipation	0.25	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-60~150	°C
R _{θJA}	Thermal Resistance From Junction To Ambient	500	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.



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■ ELECTRICAL CHARACTERISTICS (Tc=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=-10mA, I_B=0$	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5		V
Collector cutoff current	I_{CBO}	$V_{CB}=-50V, I_E=0$		-20	nA
Collector cut-off current	I_{CEX}	$V_{CE}=-30V, V_{BE}=-0.5V$		-50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-3V, I_C=0$		-10	nA
DC Current Gain	h_{FE1}	$V_{CE}=-10V, I_C=-150mA$	100	300	
	h_{FE2}	$V_{CE}=-10V, I_C=-0.1mA$	75		
	h_{FE3}	$V_{CE}=-10V, I_C=-1mA$	100		
	h_{FE4}	$V_{CE}=-10V, I_C=-10mA$	100		
	h_{FE5}	$V_{CE}=-10V, I_C=-500mA$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=-150mA, I_B=-15mA$		-0.4	V
		$I_C=-500mA, I_B=-50mA$		-0.16	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}^*$	$I_C=-150mA, I_B=-15mA$		-1.3	V
		$I_C=-500mA, I_B=-50mA$		-2.6	V
Transition frequency	f_T	$V_{CE}=-20V, I_C=-50mA, f=100MHz$	200		MHz
Delay time	t_d	$V_{CE}=-30V, I_C=-150mA$		10	ns
Rise time	t_r	$I_{B1}=-15mA$		25	ns
Storage time	t_s	$V_{CC}=-6V, I_C=-150mA$		225	ns
Fall time	t_f	$I_{B1}=I_{B2}=-15mA$		60	ns

*note:Pulse Test: Pulse Width $\leq 300ms$, Duty Cycle $\leq 2.0\%$

■ TEST CIRCUITS

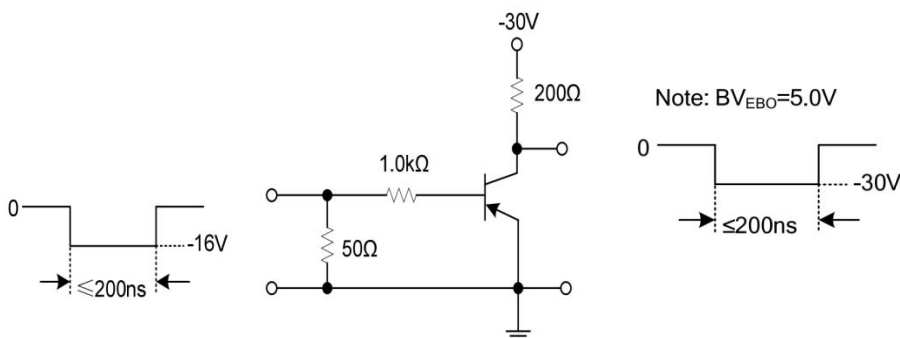


Fig 1. Saturated Turn-On Switching Time Test Circuit

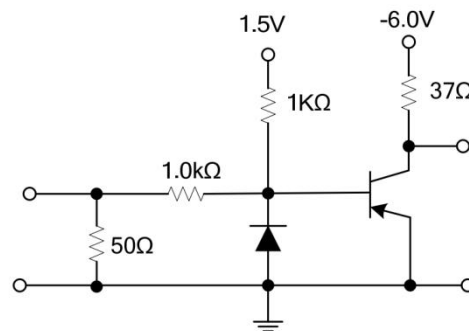


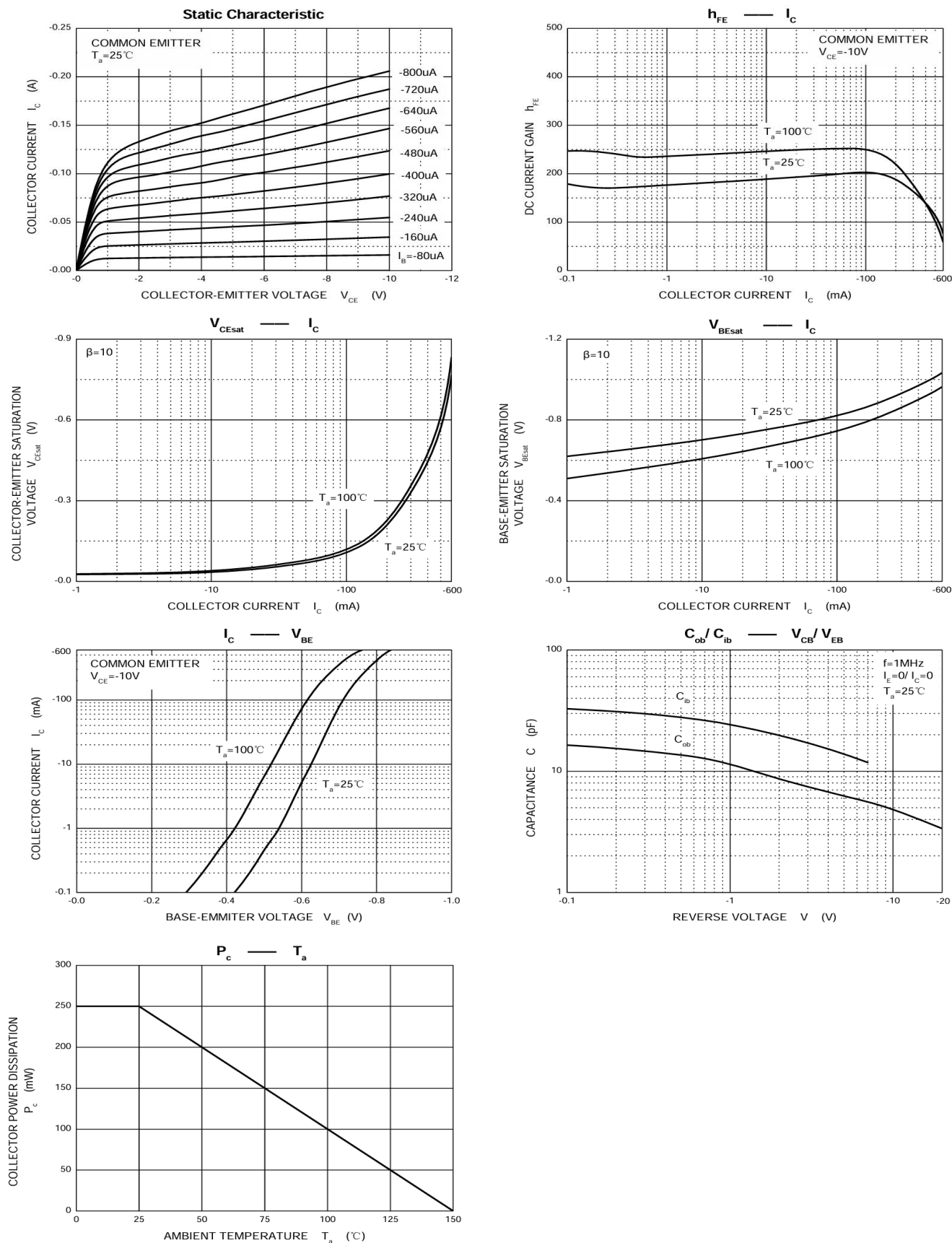
Fig 2. Saturated Turn-Off Switching Time Test Circuit



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TYPICAL CHARACTERISTICS

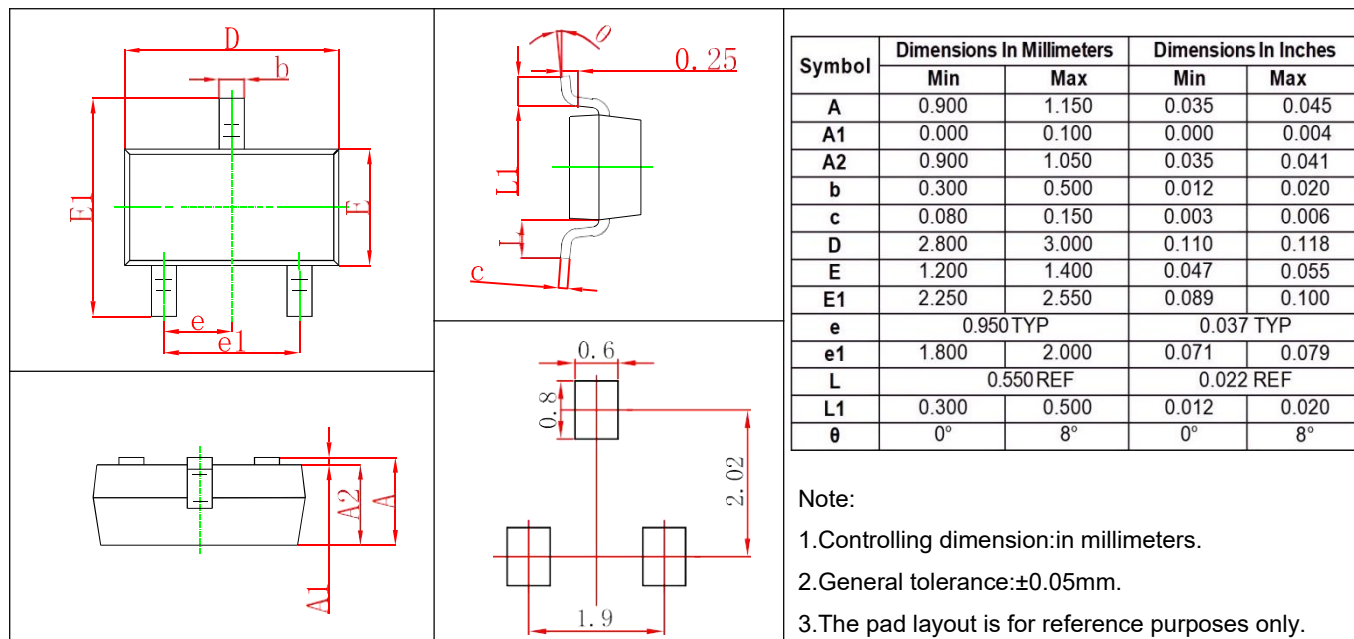




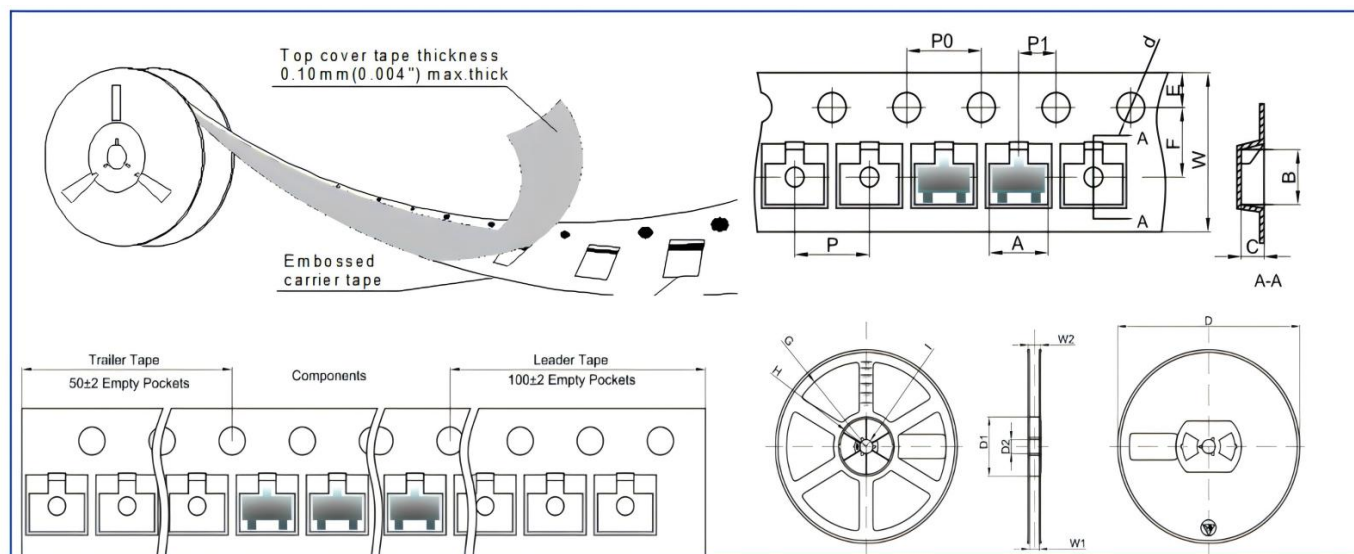
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SOT23 PACKAGE OUTLINE DIMENSIONS



REEL PACKING



Dimensions are in millimeter										
PKG TYPE	A	B	C	d	E	F	Po	P	P1	W
SOT-23	3.15	2.77	1.22	Φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
Reel Option	D	D1	D2	G	H	I	W1	W2	Q.TY PER REEL	
7" Dia	Φ178.0	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30	3000PCS	
13"Dia	φ330.0	/	13.00	/	/	R6.50	9.50	12.30	10000PCS	