



MMBT4403

PNP SILICON TRANSISTOR

DESCRIPTION

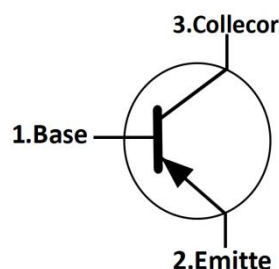
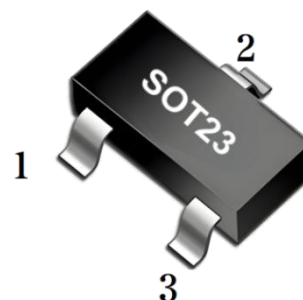
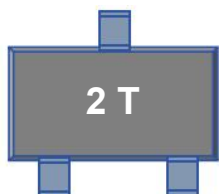
The MMBT4403 is designed for use as a general purpose amplifier and switch requiring collector currents up to 500mA.

FEATURES

*Switching Transistor

MARKING

Type Code: Marking: 2 T



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

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-base voltage	-40	V
V _{CEO}	Collector-emitter voltage	-40	V
V _{EB0}	Emitter-base voltage	-5	V
I _c	Collector current	-0.6	A
P _c	Collector Power Dissipation	0.3	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-60~150	°C
R _{θJA}	Thermal Resistance From Junction To Ambient	417	°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	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5		V
Collector cutoff current	I_{CBO}	$V_{CB} = -35V, I_E = 0$		-0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE} = -35V, V_{BE} = -0.4V$		-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$		-0.1	μA
DC Current Gain	h_{FE1}	$V_{CE} = -1V, I_C = -0.1mA$	30		
	h_{FE2}	$V_{CE} = -1V, I_C = -1mA$	60		
	h_{FE3}	$V_{CE} = -1V, I_C = -10mA$	100		
	h_{FE4}	$V_{CE} = -2V, I_C = -150mA$	100	300	
	h_{FE5}	$V_{CE} = -2V, I_C = -500mA$	20		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -150mA, I_B = -15mA$		-0.4	V
		$I_C = -500mA, I_B = -50mA$		-0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -150mA, I_B = -15mA$		-0.95	V
		$I_C = -500mA, I_B = -50mA$		-1.3	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -20mA, f = 100MHz$	200		MHz
Delay time	t_d	$V_{CC} = -30V, V_{BE(off)} = -0.5V$		15	ns
Rise time	t_r	$I_C = -150mA, I_{B1} = -15mA$		20	ns
Storage time	t_s	$V_{CC} = -30V, I_C = -150mA$		225	ns
Fall time	t_f	$I_{B1} = I_{B2} = -15mA$		60	ns

TEST CIRCUIT

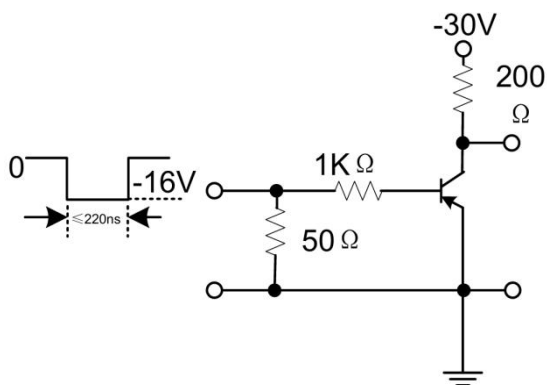


Figure 1. Saturated Turn-On Switching Timer

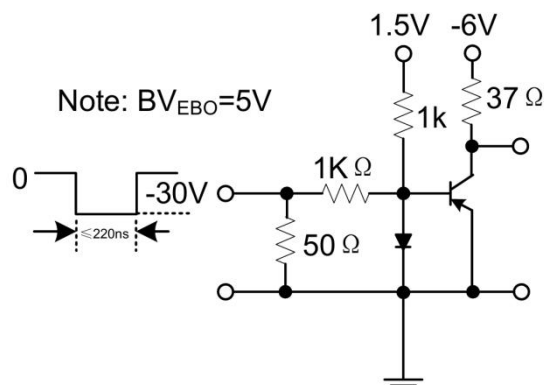


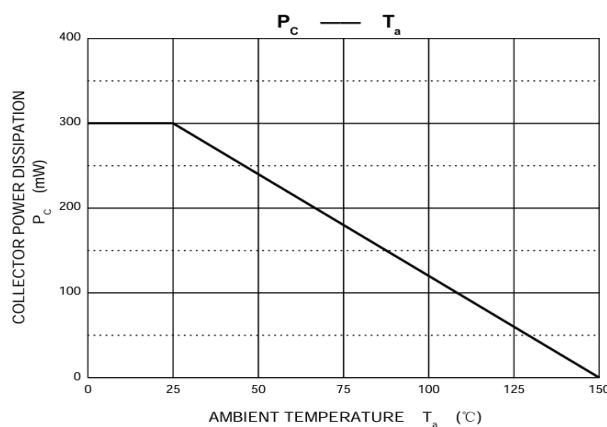
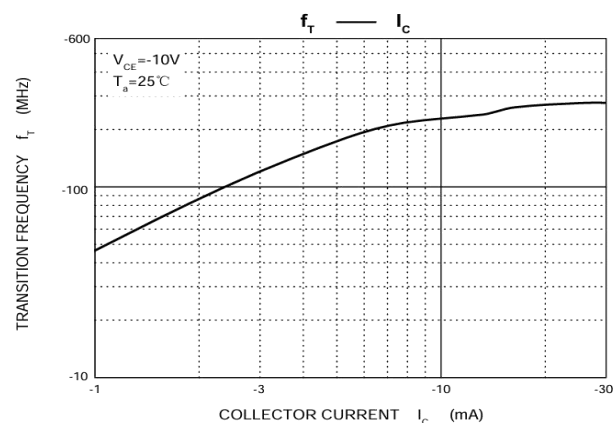
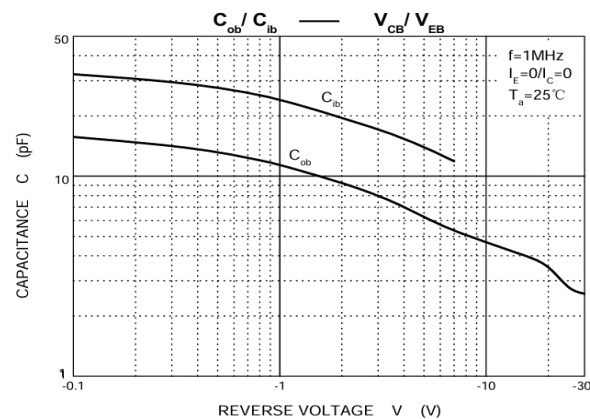
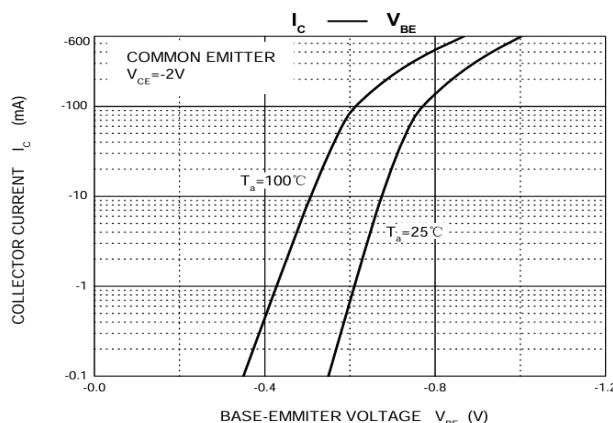
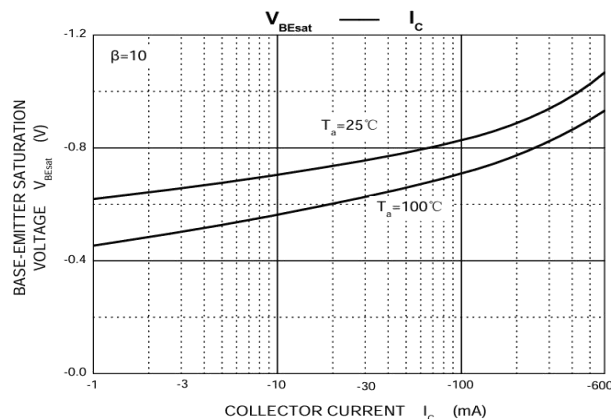
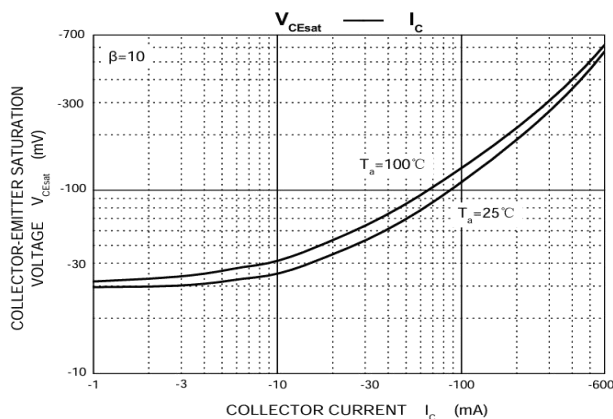
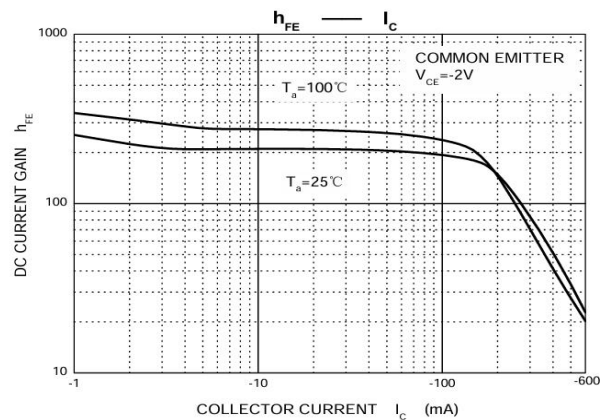
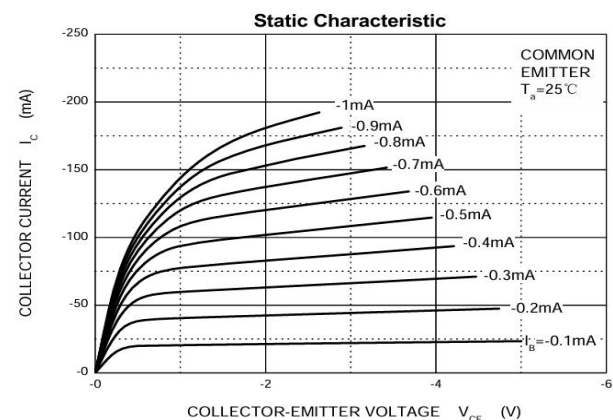
Figure 2. Saturated Turn-Off Switching Timer



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■ TYPICAL CHARACTERISTICS

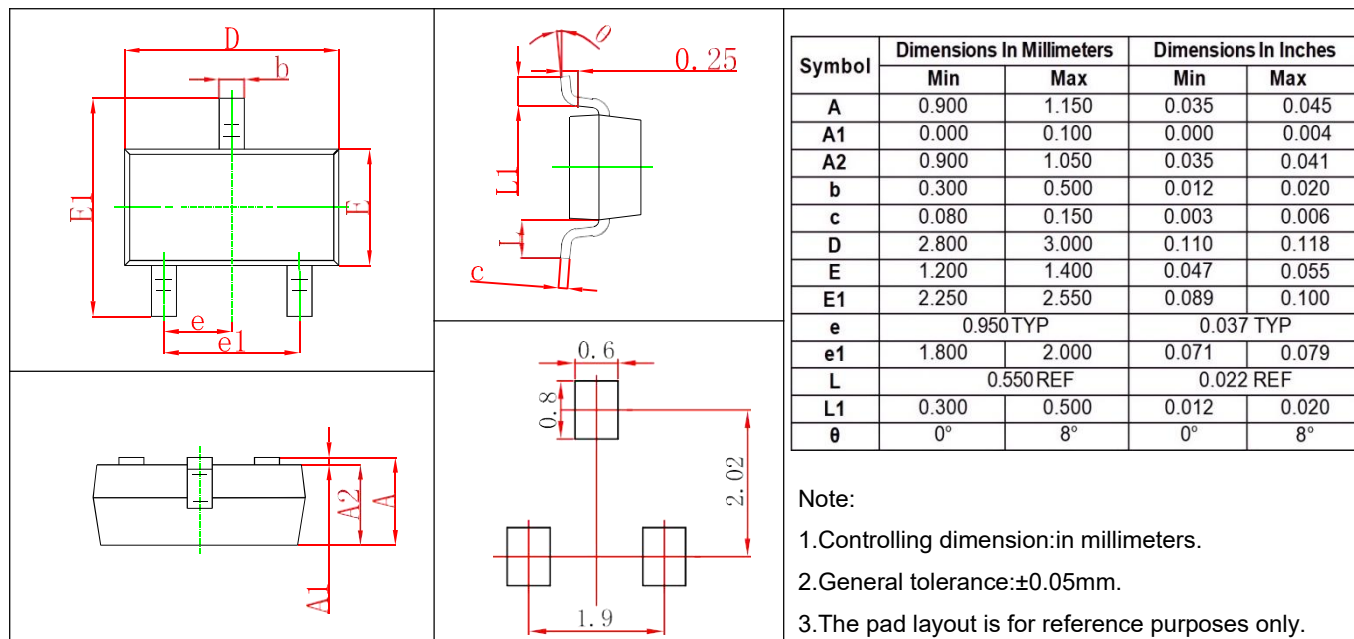




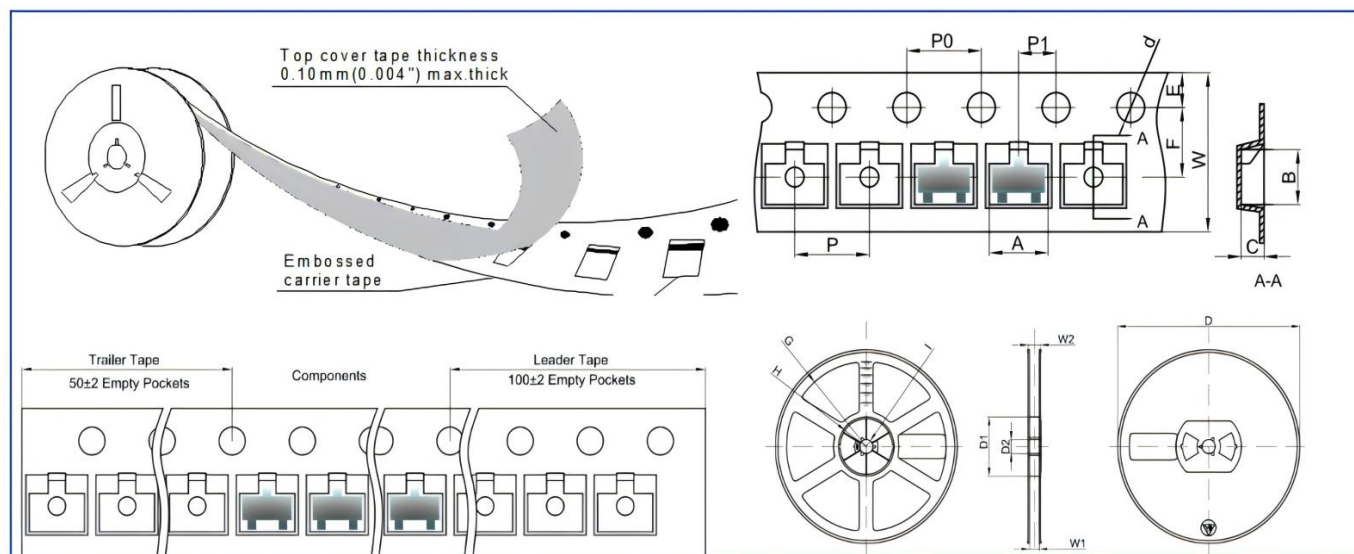
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SOT23 PACKAGE OUTLINE DIMENSIONS



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	