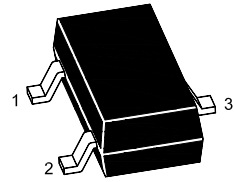




Features

- High Voltage and High speed switch

SOT-23
(TO-236)



1.Base 2.Emitter 3.Collector

Marking: 8D

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	700	V
Collector Emitter Voltage	V_{CEO}	420	V
Emitter Base Voltage	V_{EBO}	10	V
Collector Current	I_C	150	mA
Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C



Electrical Characteristics

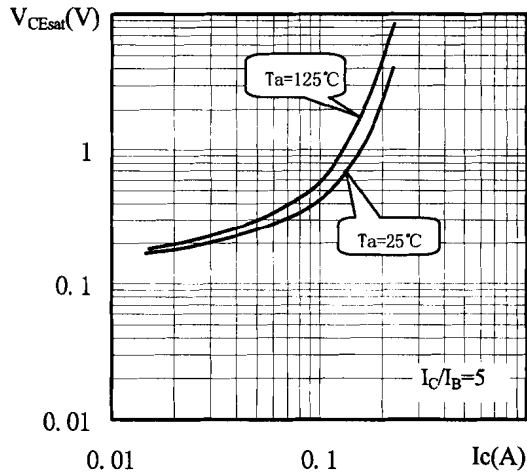
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 20\text{ V}$, $I_C = 10\text{ mA}$	H_{FE}	15	25	-
Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$	I_{CBO}	-	100	μA
Collector Base Cutoff Current at $V_{CE} = 420\text{ V}$	I_{CEO}	-	100	μA
Emitter Base Cutoff Current at $V_{EB} = 10\text{ V}$	I_{EBO}	-	100	μA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	700	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	420	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	10	-	V
Collector Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 10\text{ mA}$	$V_{CE(sat)}$	-	1.05	V
Base Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 10\text{ mA}$	$V_{BE(sat)}$	-	1.55	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$, $f = 1\text{ MHz}$	f_T	5	-	MHz
Storage Time at UI9600, $I_C = 100\text{ mA}$	t_s	-	3	μs
Rise Time at UI9600, $I_C = 100\text{ mA}$	t_r	-	1	μs
Fall Time at UI9600, $I_C = 100\text{ mA}$	t_f	-	1	μs

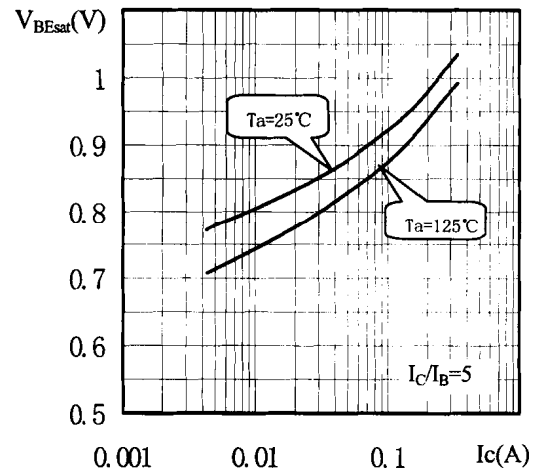


Electrical Characteristics Curves

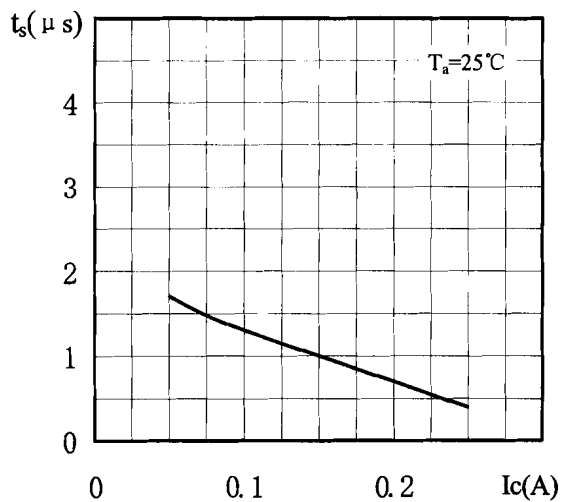
$V_{CE(sat)}-I_C$ Characteristics(Typical)



$V_{BE(sat)}-I_C$ Characteristics(Typical)

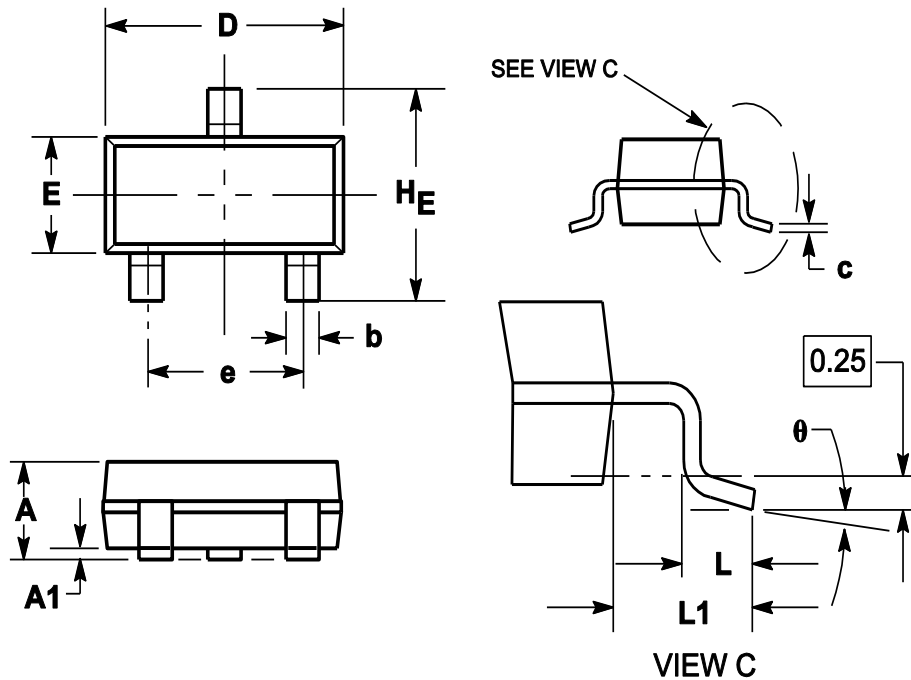


t_s-I_C Characteristics(Typical)





Package Outline(SOT-23)



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

Ordering Information

Device	Package	Reel Dimension (inch)	Shipping
MMBT13001SA	SOT-23	7	3,000