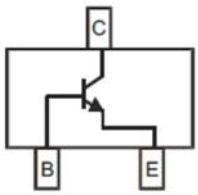
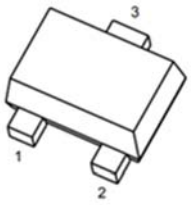
NPN Transistor





1. Base
2. Emitter
3. Collector

SOT-723

Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for auto matic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package**: SOT-723
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				1P
Collector-base voltage	V_{CBO}	V	I_C=10μA,I_E=0	75
Collector-emitter voltage	V_{CEO}	V	I_C =10mA,I_B=0	40
Emitter-base voltage	V_{EBO}	V	I_E=10μA,I_C=0	6
Collector current	I_C	mA		600
Power dissipation	P_D	mW		100
Junction temperature	T_J	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	I_C=10μA,I_E=0	75		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	I_C =10mA,I_B=0	40		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	I_E=10μA,I_C=0	6		
Collector-base cut-off current	I_{CBO}	nA	V_{CB}=60V			100
Emitter-base cut-off current	I_{EBO}	nA	V_{EB}=3V			100
Collector-emitter cut-off current	I_{CEX}	nA	V_{CE}=60V,V_{EB}=3V			10
DC current gain	h_{FE1}		V_{CE}=10V,I_C=0.1mA	35		
	h_{FE2}		V_{CE}=10V,I_C=1mA	50		
	h_{FE3}		V_{CE}=10V,I_C=10mA	80		
	h_{FE4}		V_{CE}=10V,I_C=150mA	100		300
	h_{FE5}		V_{CE}=1V,I_C=150mA	50		
	h_{FE6}		V_{CE}=10V,I_C=500mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C=150mA,I_B=15mA			0.3
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C=150mA,I_B=15mA	0.6		1.2

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	RθJ-A(1)	℃/W	1250
Thermal resistance, junction-to-case	RθJ-C(1)	℃/W	1000

Note:

（1）Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas

■Characteristics

Fig 1：Static Characteristics

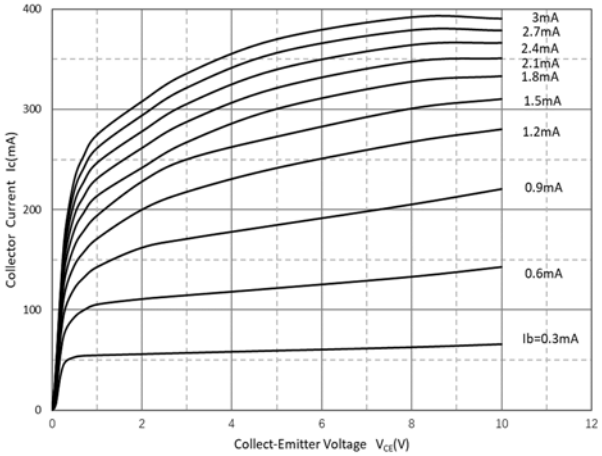


Fig 2：DC Current Gain Characteristics

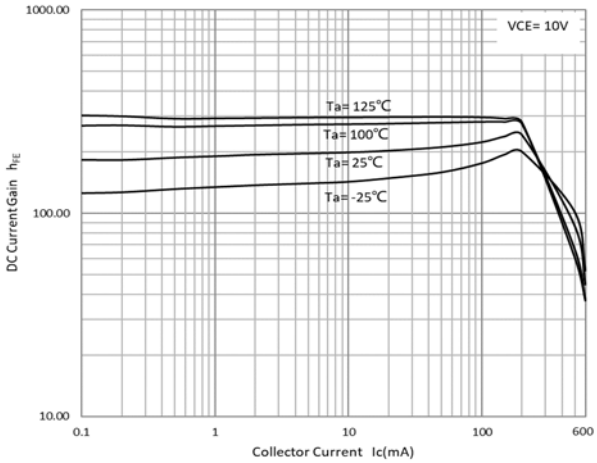


Fig 3：Collector-Emitter Saturation Voltage

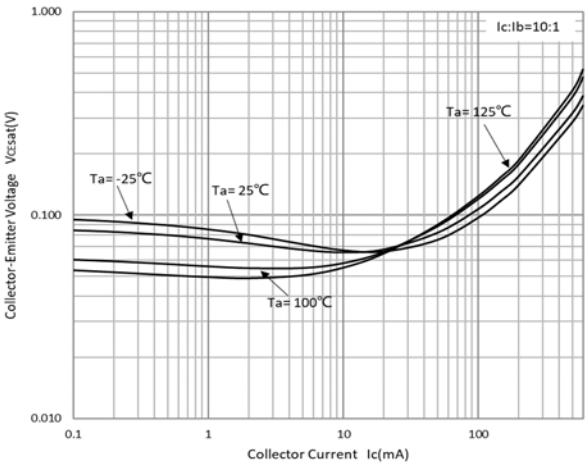


Fig 4：Base-Emitter Saturation Voltage

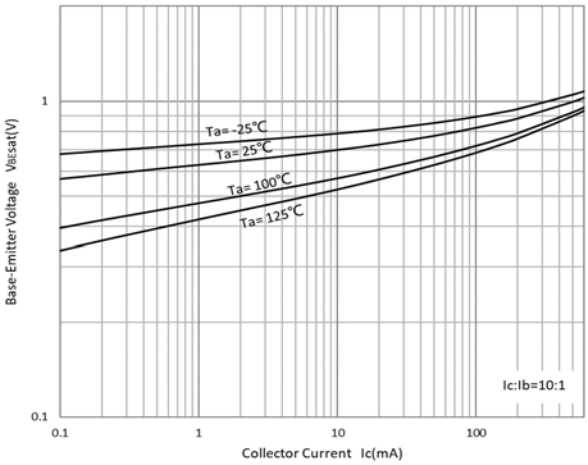


Fig 5：Base-Emitter on Voltage

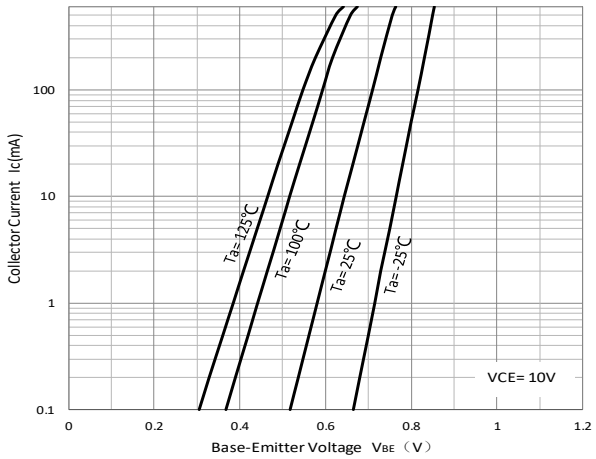


Fig 6：Cob/Cib-V_{CB}/V_{EB}

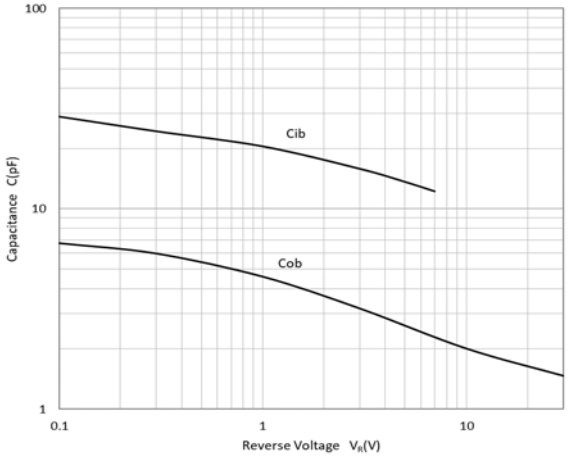
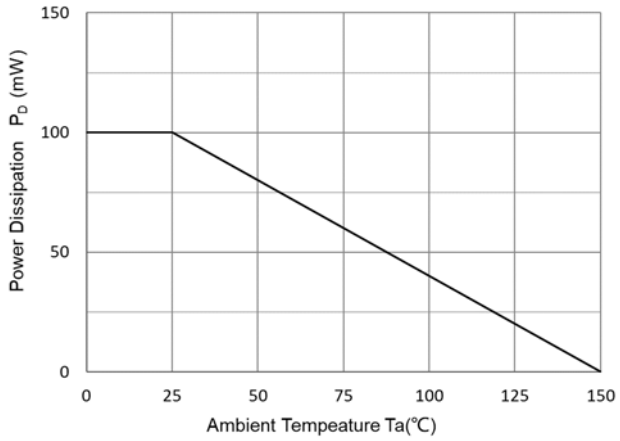
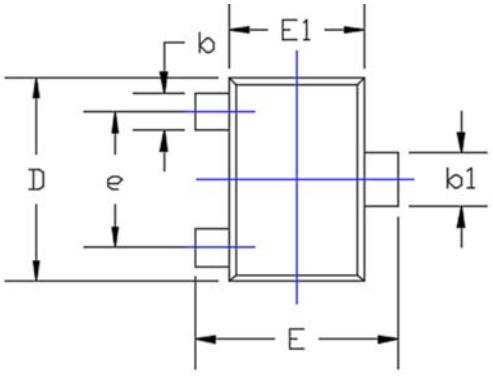


Fig 7：P_D-Ta Curve

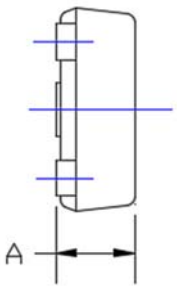


Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
MMBT2222AM	F2	Approximate 0.0013	8000	80000	320000	7” reel

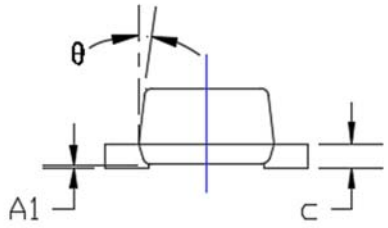
■ Outline Dimensions



TOP VIEW



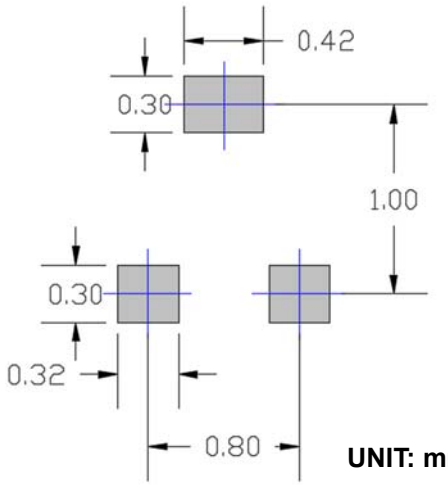
SIDE VIEW



SIDE VIEW

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
θ	7°REF.		7°REF.	

■ Suggested Pad Layout



UNIT: mm

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