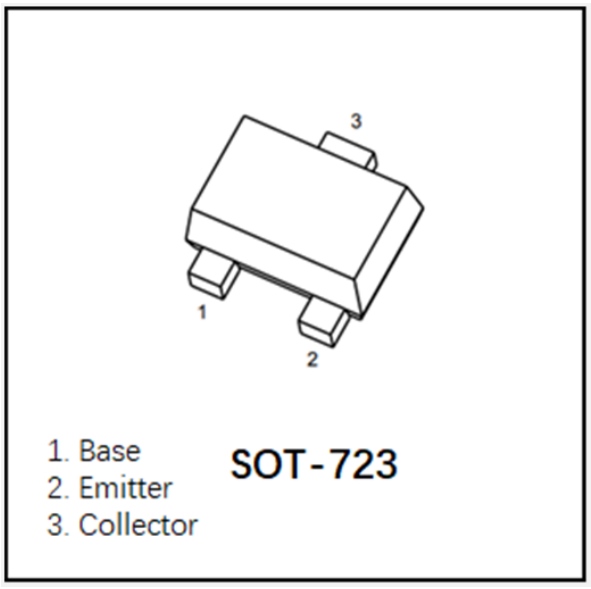
NPN General Purpose Amplifier



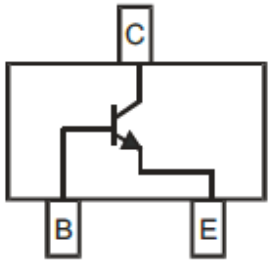
Features

- ●Epoxy meets UL-94 V-0 flammability rating
- ●Moisture Sensitivity Level 1
- ●Halogen free available upon request by adding suffix ”HF”
- ●NPN

Mechanical Data

- **Package**: SOT-723
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 1AM

■Equivalent circuit



■Maximum Ratings (Ta=25℃ Unless otherwise specified）

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	V_{CEO}	V	I_C=1.0mAdc, I_B=0	40
Collector-Base Voltage	V_{CBO}	V	I_C=10uAdc, I_E=0	60
Emitter-Base Voltage	V_{EBO}	V	I_E=10uAdc, I_C=0	6.0
Collector Current	I_C	mA		200
Collector Power Dissipation	P_C	mW		100
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	℃/W		1250
Operation Junction Temperature	T_J	℃		-55 to +150
Storage Temperature	T_{STG}	℃		-55 to +150

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

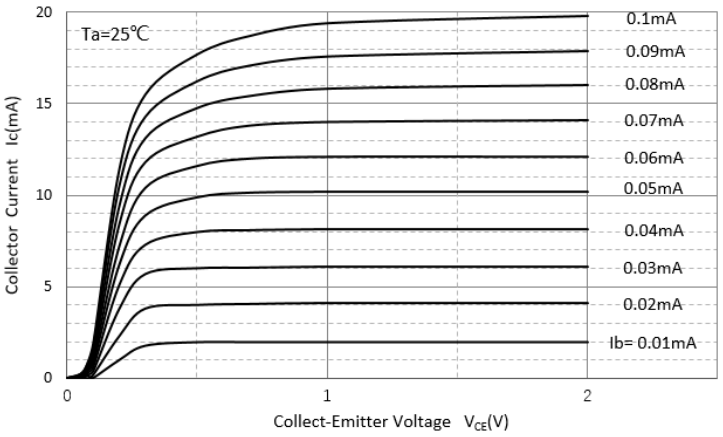
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V_{CEO}	V	I_C=1.0mAdc, I_B=0	40	
Collector-Base Voltage	V_{CBO}	V	I_C=10uAdc, I_E=0	60	
Emitter-Base Voltage	V_{EBO}	V	I_E=10uAdc, I_C=0	6.0	
Collector-base Cut-off Current	I_{CBO}	nA	V_{CB}=60Vdc		50
Collector-emitter Cut-off Current	I_{CEX}	nA	V_{CE}=30Vdc,V_{EB}=3Vdc		50
DC Current Gain	h_{FE}		I_C=0.1mAdc, V_{CE}=1.0Vdc	40	
			I_C=1.0mAdc, V_{CE}=1.0Vdc	70	
			I_C=10mAdc, V_{CE}=1.0Vdc	100	300
			I_C=50mAdc, V_{CE}=1.0Vdc	60	
			I_C=100mAdc, V_{CE}=1.0Vdc	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	I_C=10mAdc, I_B=1.0mAdc		0.2
			I_C=50mAdc, I_B=5.0mAdc		0.3
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	I_C=10mAdc, I_B=1.0mAdc	0.65	0.85
			I_C=50mAdc, I_B=5.0mAdc		0.95
Collector-base Output Capacitance	Cobo	pF	V_{CB}=5.0Vdc, f=1.0MHz, I_E=0		4
Transition frequency	f_T	MHz	I_C=10mA, V_{CE}=20V, f=100MHz	300	
Delay Time	td	ns	V_{CC}=3.0V,V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA	35	
Rise Time	tr	ns		35	
Storage Time	ts	ns	V_{CC}=3.0V,I_C=10mA, I_{B1}=I_{B2}=1.0mA	200	
Fall Time	tf	ns		50	

■ Ordering Information (Example)

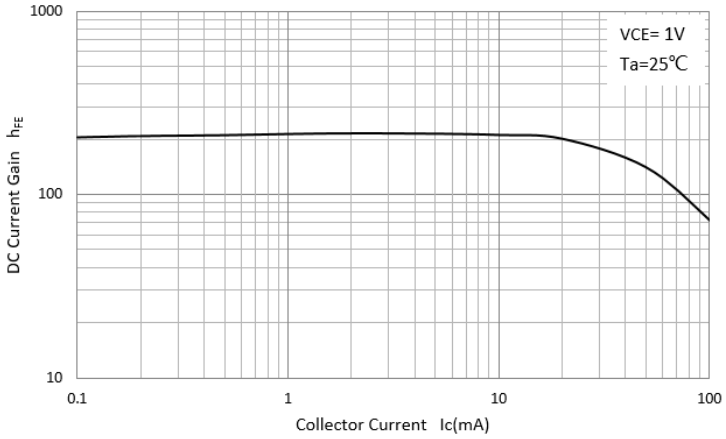
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT3904M3	F2	Approximate 0.0013	8000	80000	320000	7” reel

■ **Characteristics** (Typical)

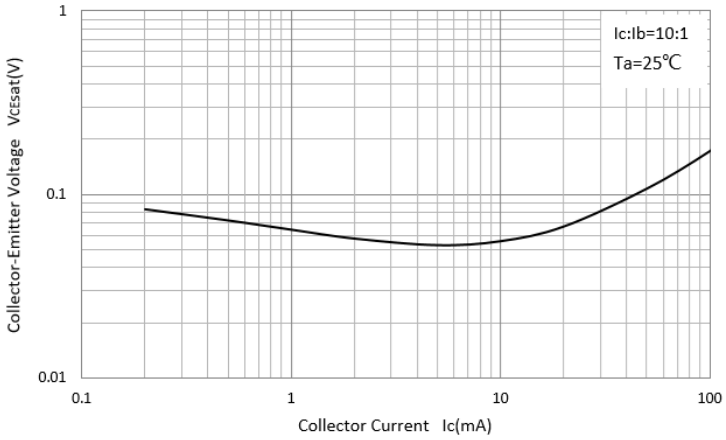
Static Characteristic



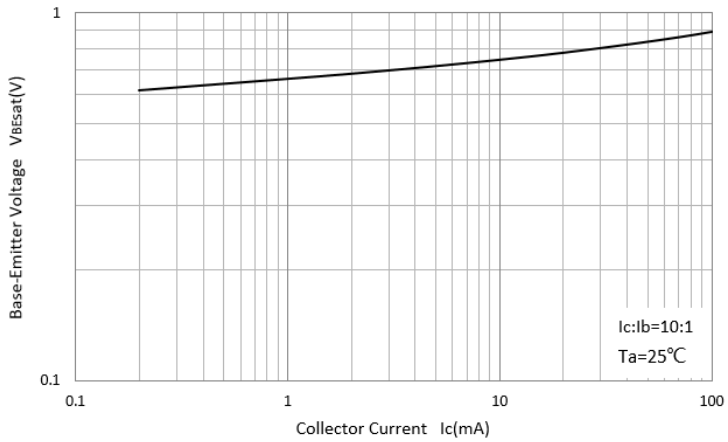
DC Current Gain



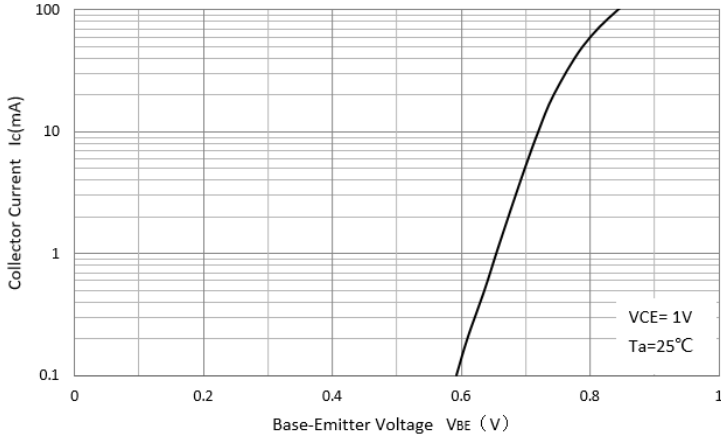
Collector-Emitter Saturation Voltage



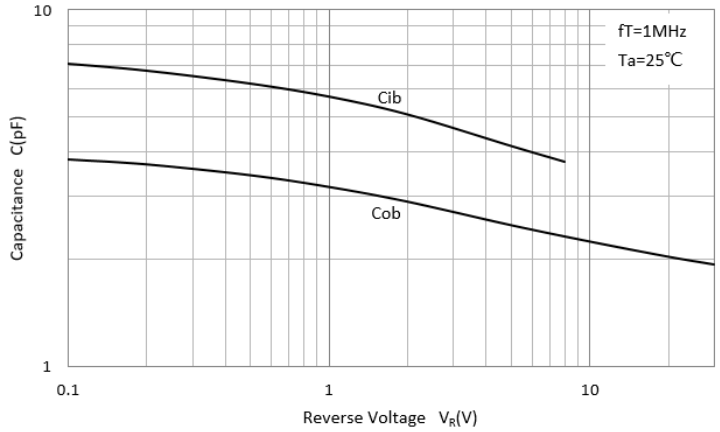
Base-Emitter Saturation Voltage



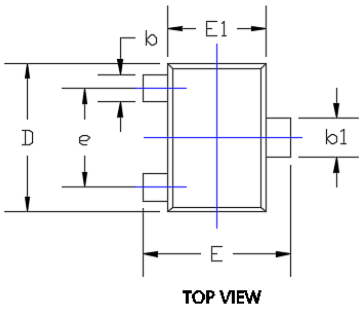
Base-Emitter On Voltage

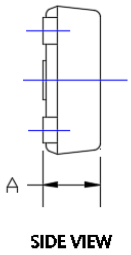


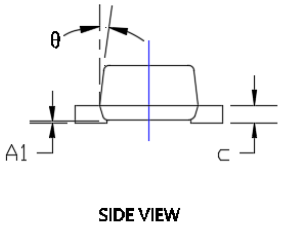
Cob/Cib-V_{CB}/V_{EB}



■SOT-723 Package Outline Dimensions

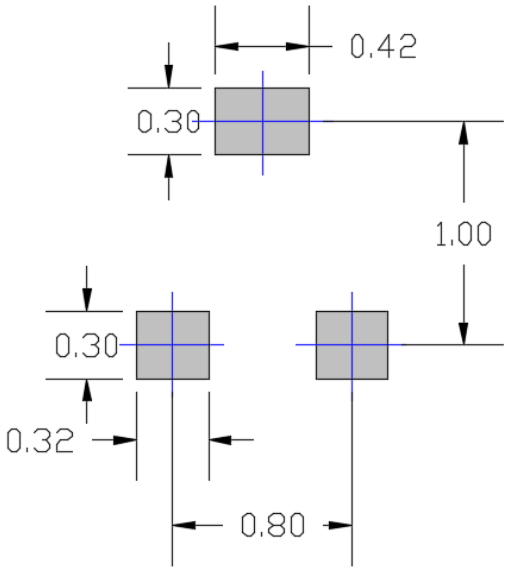






DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.017	0.022	0.430	0.550
A1	0.000	0.002	0.000	0.050
b	0.007	0.011	0.170	0.270
b1	0.011	0.015	0.270	0.370
c	0.003	0.008	0.080	0.200
D	0.045	0.049	1.150	1.250
E	0.045	0.049	1.150	1.250
E1	0.030	0.033	0.750	0.850
e	0.031TYP.		0.800TYP.	
θ	7°REF.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

■SOT-723 Suggested Pad Layout



Note:
1. Package Body Sizes Exclude Mold Flash And Gate Burrs.
2. Tolerance 0.1mm Unless Otherwise Specified.
3. The Pad Layout Is For Reference Purposes Only.

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