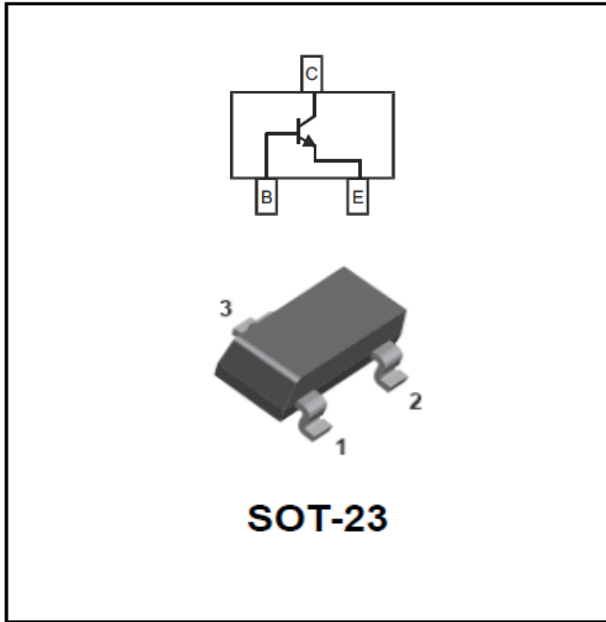


## NPN General Purpose Amplifier



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisure Sensitivity Level 1
- Marking:G1

### ■Maximum Rantings (Ta=25°C)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage*	$V_{CEO}$	V	$I_C=1.0\text{mAdc}$ , $I_B=0$	160
Collector-Base Voltage	$V_{CBO}$	V	$I_C=100\text{uAdc}$ , $I_E=0$	180
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=10\text{uAdc}$ , $I_C=0$	6.0
Collector Current	$I_C$	mA		600
Collector Power Dissipation	$P_C$	mW		300
Operation Junction Temperature	$T_j$	°C		-55 to +150
Storage Temperature	$T_{stg}$	°C		-55 to +150



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## ■Electrical Characteristics (T<sub>a</sub>=25°C)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage*	V <sub>CEO</sub>	V	I <sub>C</sub> =1.0mA, I <sub>B</sub> =0	160	
Collector-Base Voltage	V <sub>CBO</sub>	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0	180	
Emitter-Base Voltage	V <sub>EBO</sub>	V	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6.0	
Collector-base Cut-off Current	I <sub>CBO</sub>	nA	V <sub>CB</sub> =120Vdc		50
Emitter-base Cut-off Current	I <sub>EBO</sub>	nA	V <sub>EB</sub> =4.0Vdc		50
DC Current Gain	h <sub>FE</sub>		I <sub>C</sub> =1.0mA V <sub>CE</sub> =5.0Vdc	80	
			I <sub>C</sub> =10mA V <sub>CE</sub> =5.0Vdc	100	300
			I <sub>C</sub> =50mA V <sub>CE</sub> =5.0Vdc	50	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	V	I <sub>C</sub> =50mA I <sub>B</sub> =5.0mA		0.2
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	V	I <sub>C</sub> =50mA I <sub>B</sub> =5.0mA		1.0

## ■Small-signal Characteristics (T<sub>a</sub>=25°C)

Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	f <sub>T</sub>	MHz	I <sub>C</sub> =10mA, V <sub>CE</sub> =5.0Vdc, f=30MHz	100	300

## ■Ordering Information (Example)

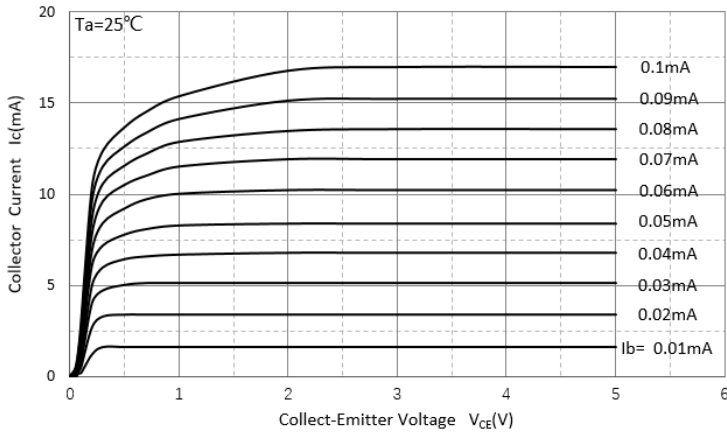
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT5551	F2	Approximate 0.008	3000	30000	120000	7" reel



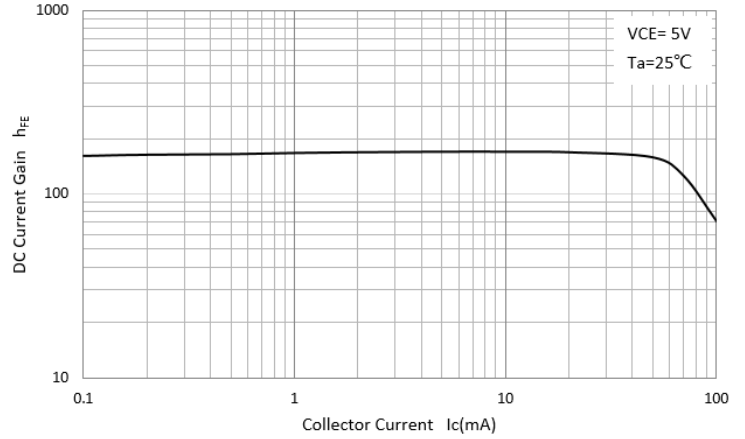
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## Characteristics(Typical)

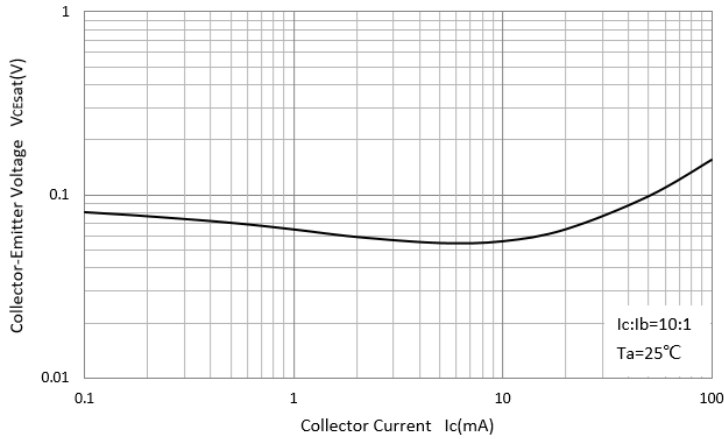
### Static Characteristic



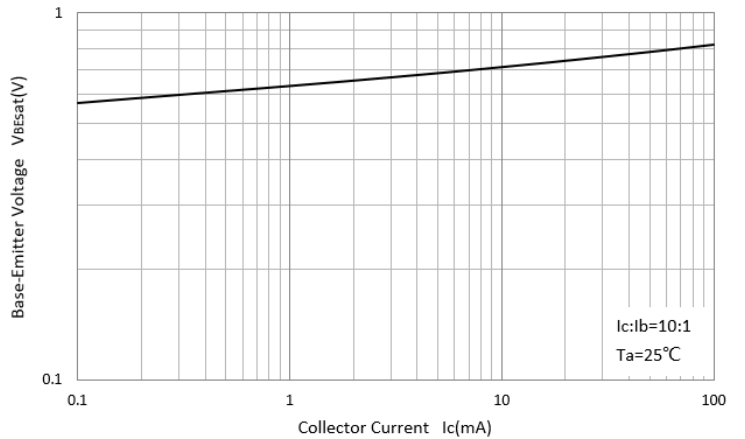
### DC Current Gain



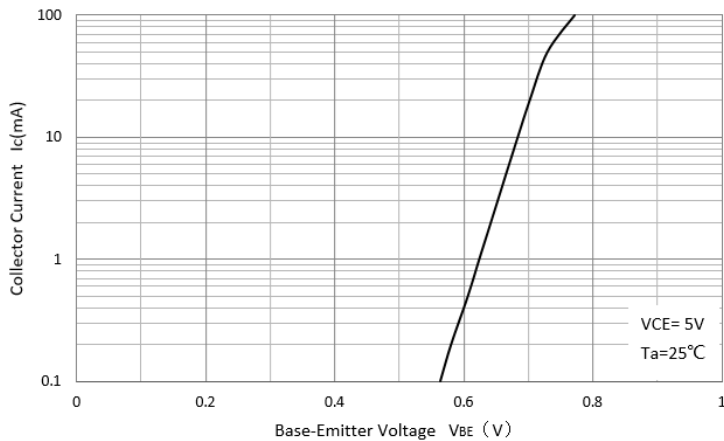
### Collector-Emittor Saturation Voltage



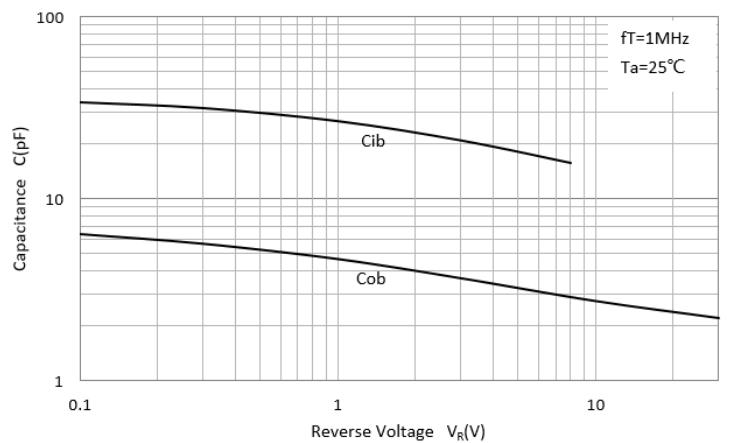
### Base-Emittor Saturation Voltage



### Base-Emittor On Voltage



### Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>





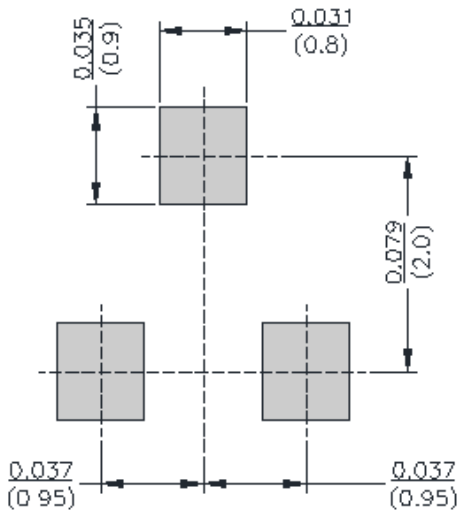
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## ■SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

## ■SOT-23 Soldering Footprint





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