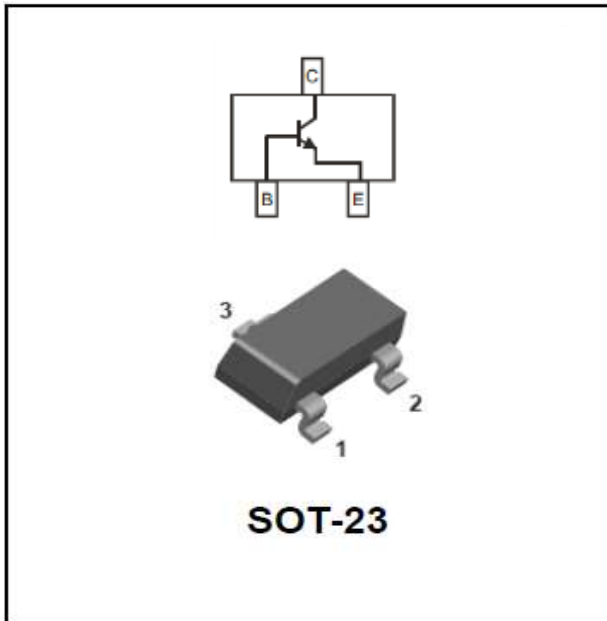


## NPN General Purpose Amplifier



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: G1



### ■ Maximum Ratings (Ta=25°C)

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

**■Electrical Characteristics (Ta=25°C)**

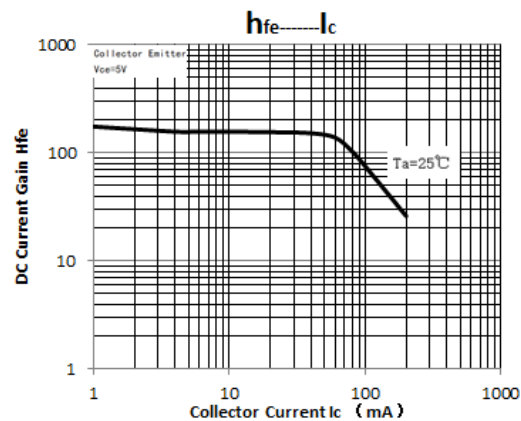
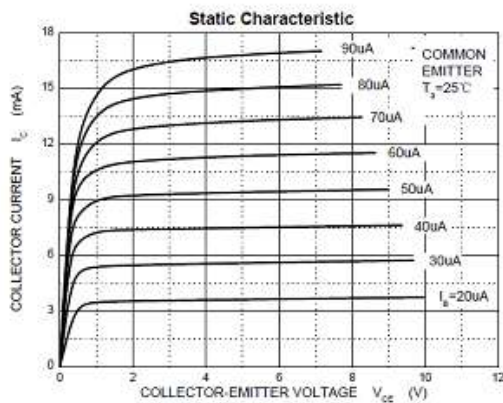
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage*	$V_{CE0}$	V	$I_C=1.0mA, I_B=0$	160	
Collector-Base Voltage	$V_{CB0}$	V	$I_C=100\mu A, I_E=0$	180	
Emitter-Base Voltage	$V_{EB0}$	V	$I_E=10\mu A, I_C=0$	6.0	
Collector Cutoff Current	$I_{CBO}$	nA	$V_{CB}=120Vdc$		50
Collector Cutoff Current	$I_{EB0}$	nA	$V_{CE}=4.0Vdc$		50
DC Current Gain	$h_{FE}$		$I_C=1.0mA, V_{CE}=5.0Vdc$	80	
			$I_C=10mA, V_{CE}=5.0Vdc$	100	300
			$I_C=50mA, V_{CE}=5.0Vdc$	50	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=50mA, I_B=5.0mA$		0.2
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=50mA, I_B=5.0mA$		1.0

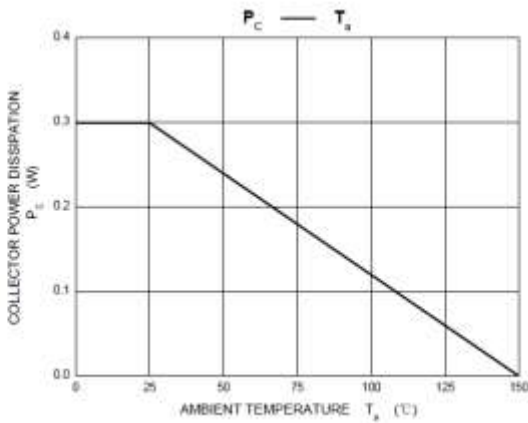
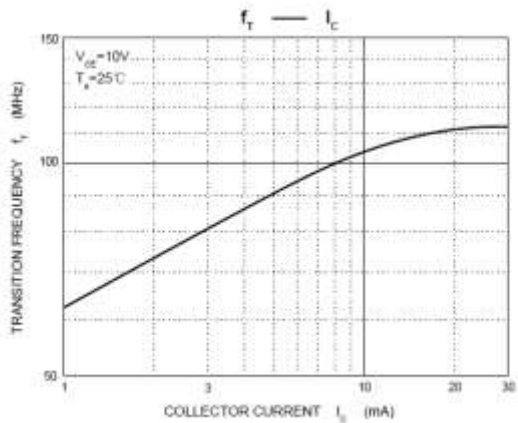
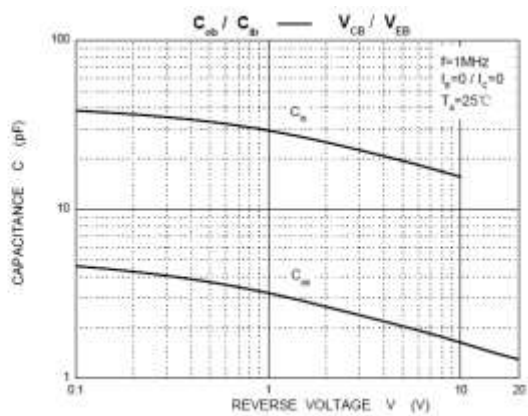
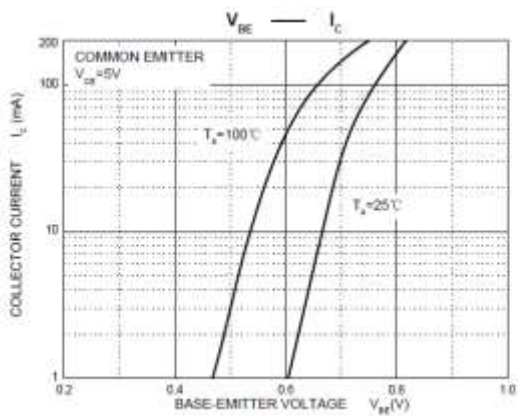
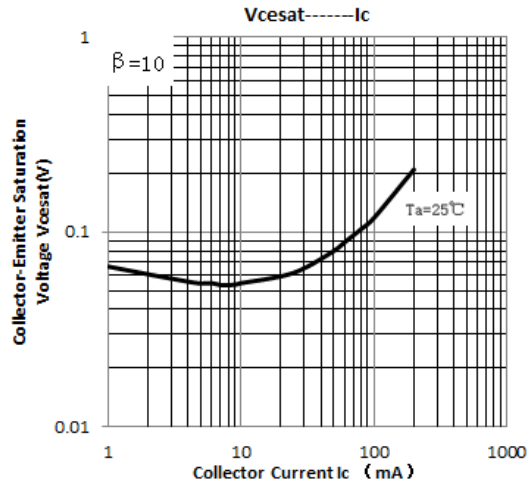
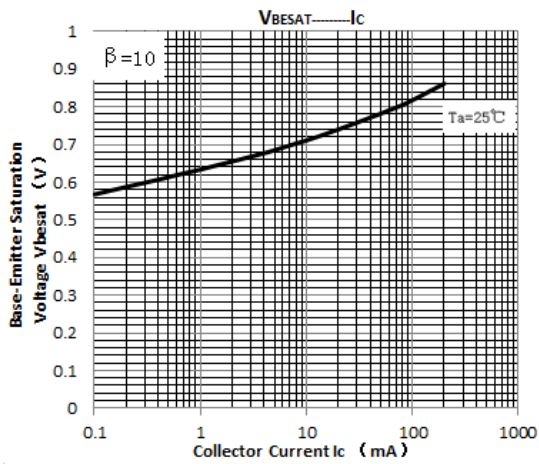
**■Small-signal Characteristics (Ta=25°C)**

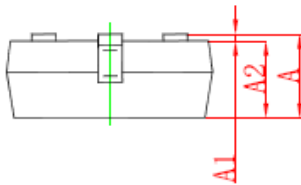
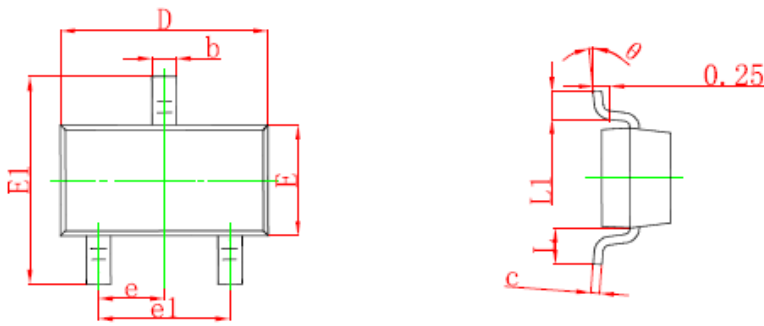
Item	Symbol	Unit	Conditions	Min	Max
Current Gain-Bandwidth Product	$f_T$	MHz	$I_C=10mA, V_{CE}=5.0Vdc, f=30MHz$	100	300

**■Ordering Information (Example)**

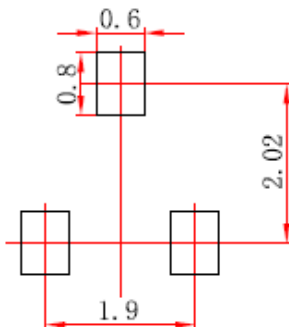
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT5551	F2	Approximate 0.008	3000	30000	120000	7" reel

**■Characteristics(Typical)**




**■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	0.080	0.150	0.003	0.006
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	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

**■SOT-23 Suggested Pad Layout**

**Note:**

1. Controlling dimension: In millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

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