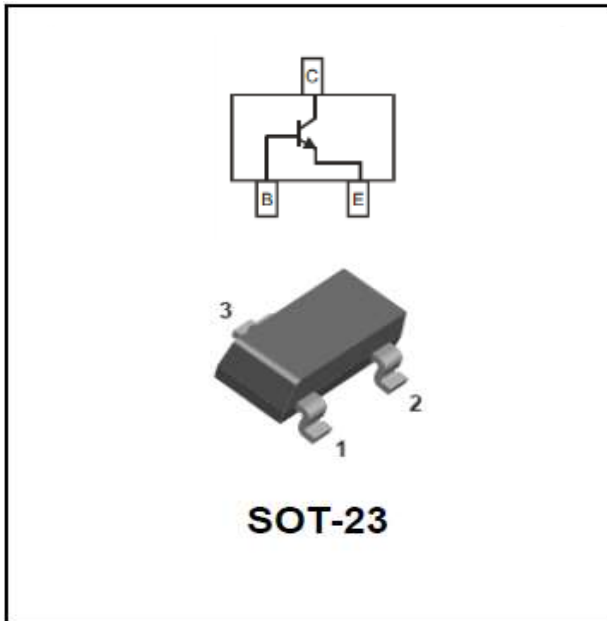


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 2X



■ Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V		60
Collector-Emitter Voltage	VCEO	V		40
Emitter-Base Voltage	VEBO	V		6
Collector Current -Continuous	IC	mA		600
Total Device Dissipation	PD	mW		300
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150

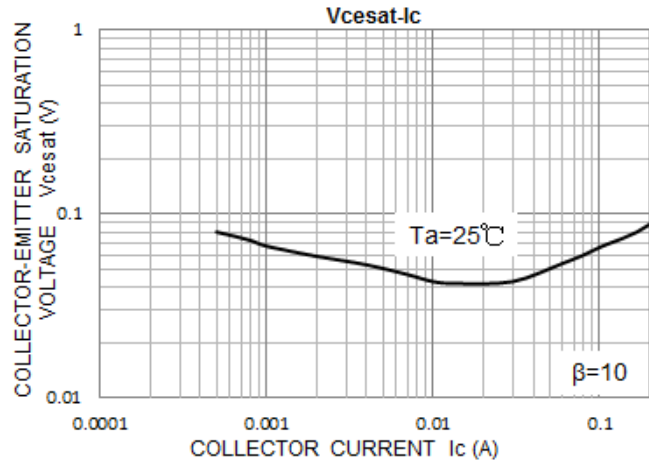
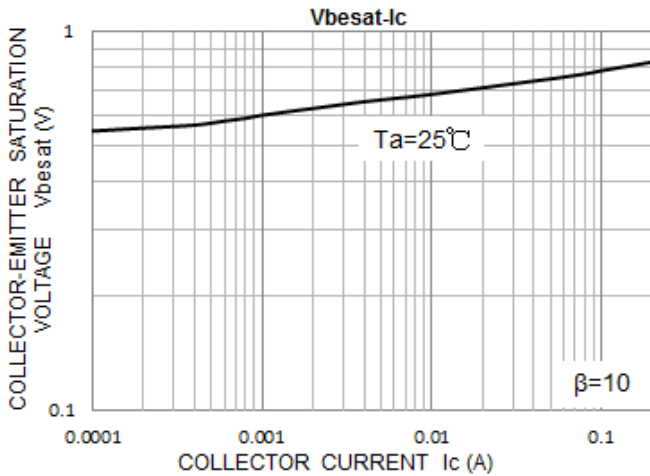
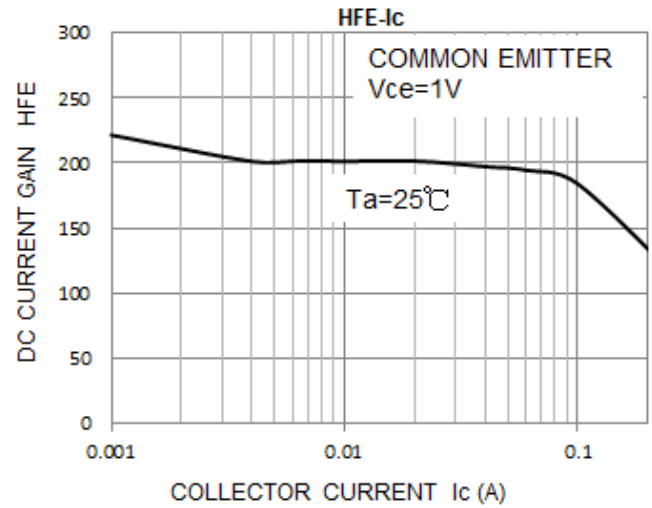
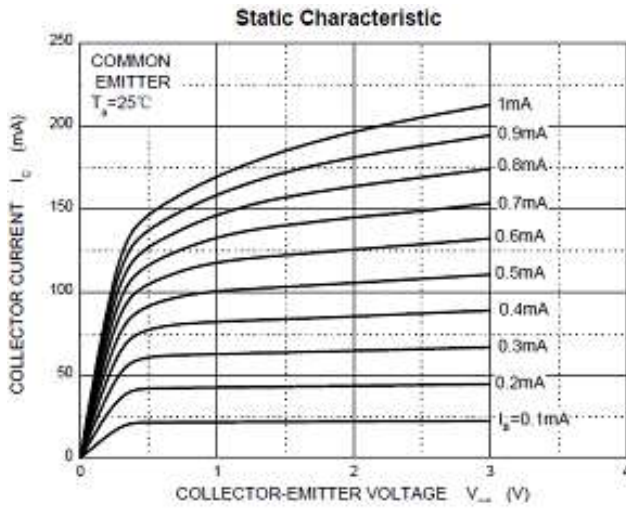
■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	IC=10mA, IE=0	60		
Collector-emitter breakdown voltage	$V_{(BR)CEO^*}$	V	IC =1mA, IB=0	40		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	IE=100µA, IC=0	6		
Collector cut-off current	I_{CEO}	nA	VCB=35V, IB=0			100
Collector cut-off current	I_{CBO}	nA	VCE=60V, IC =0			100
Emitter cut-off current	I_{EBO}	nA	VEB=3 V, IC =0			100
DC current gain	h_{FE}	V	VCE=1V, IC=150mA	100		300
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=150mA, IB=15mA			0.4
Base-emitter saturation voltage	$V_{BE(sat)}$	V	IC=150mA, IB=15mA			0.95
Transition frequency	f_T	MHz	VCE=10V, IC=20mA, f=100MHz	250		
Delay time	td	ns	VCC=30V, VBE(off)=0.2V			15
Rise time	tr	ns	IC=150mA, IB1=15mA			20
Storage time	ts	ns	VCC=30V, IC=150mA, IB1=IB2=15mA			225
Fall time	tf	ns				30

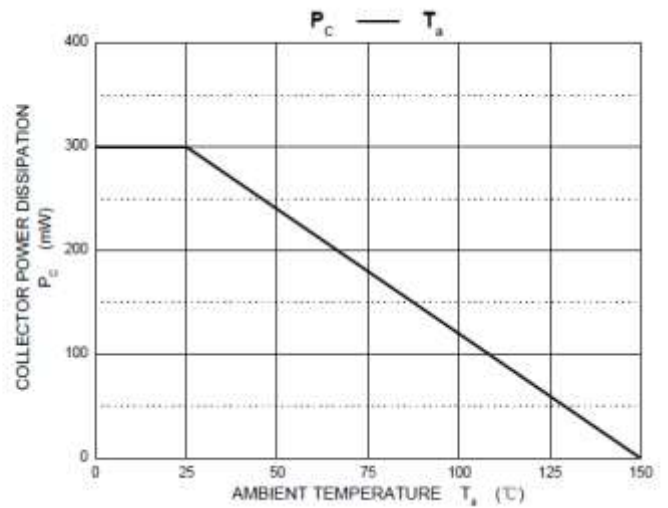
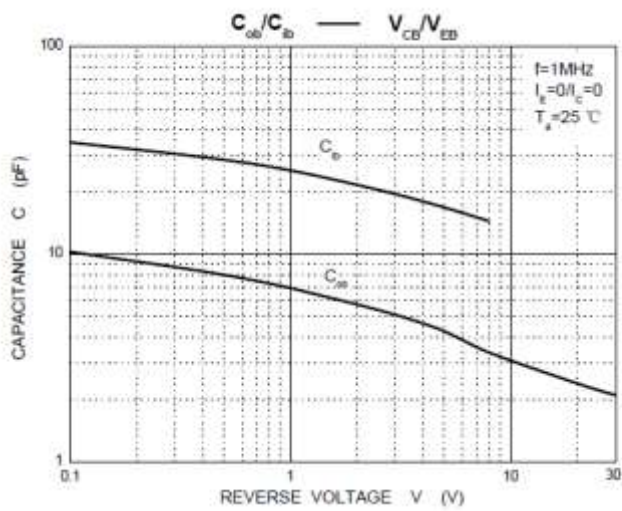
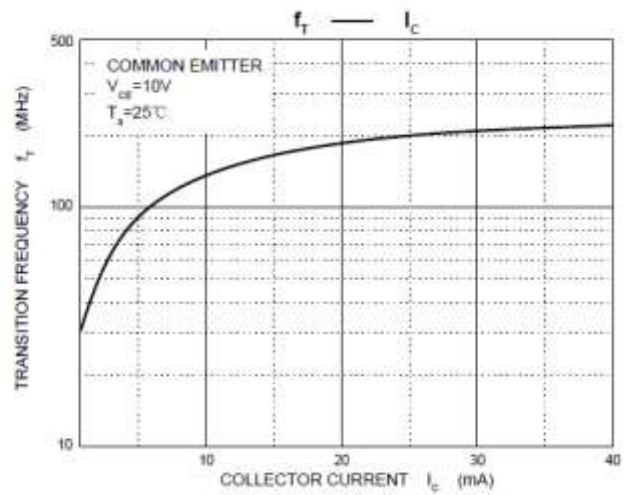
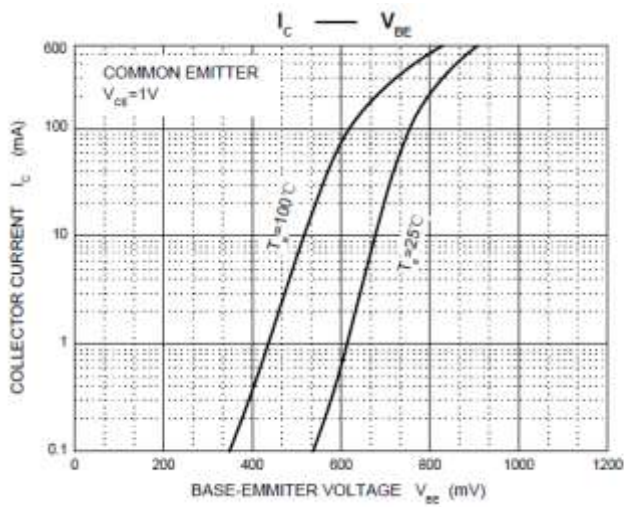
■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT4401	F2	Approximate 0.008	3000	30000	120000	7" reel

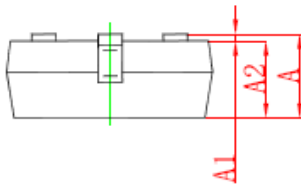
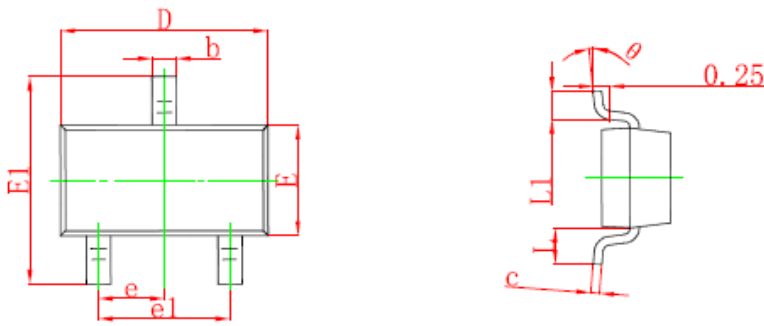
■ Characteristics (Typical)



■ Characteristics (Typical)

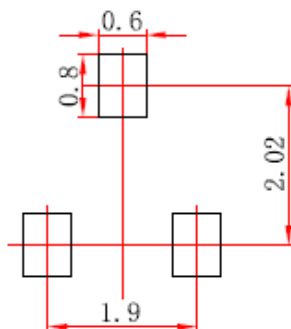


■ SOT-23 Package Outline Dimensions



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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