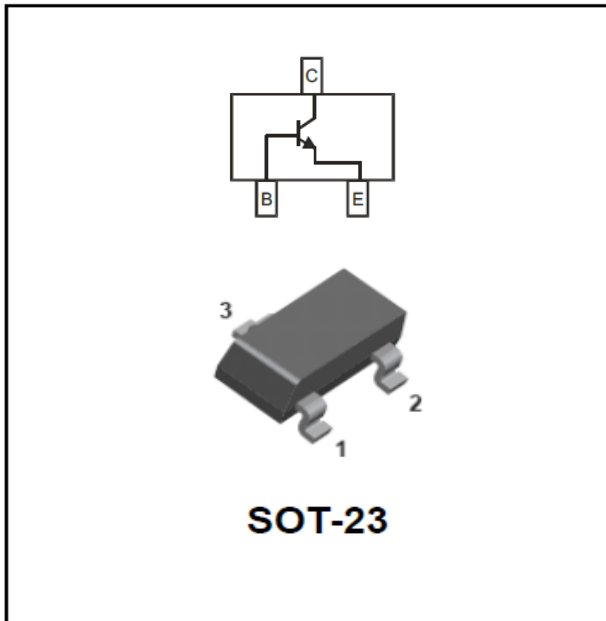


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Marking: 2X

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

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CB0}	V		60
Collector-Emitter Voltage	V_{CEO}	V		40
Emitter-Base Voltage	V_{EBO}	V		6
Collector Current	I_C	mA		600
Collector Power Dissipation	P_C	mW		300
Junction Temperature	T_j	°C		150
Storage Temperature	T_{stg}	°C		-55 to +150

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

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CB0}	V	$I_C=10mA, I_E=0$	60		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	40		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=100\mu A, I_C=0$	6		
Collector-emitter cut-off current	I_{CEO}	nA	$V_{CE}=35V, I_B=0$			100
Collector-base cut-off current	I_{CBO}	nA	$V_{CB}=60V, I_E=0$			100
Emitter-base cut-off current	I_{EBO}	nA	$V_{EB}=3V, I_C=0$			100
DC current gain	h_{FE}	V	$V_{CE}=1V, I_C=150mA$	100		300
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=150mA, I_B=15mA$			0.4
Base-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=150mA, I_B=15mA$			0.95
Transition frequency	f_T	MHz	$V_{CE}=10V, I_C=20mA, f=100MHz$	250		
Delay time	t_d	ns	$V_{CC}=30V, V_{BE(off)}=0.2V$ $I_C=150mA, I_{B1}=15mA$			15
Rise time	t_r	ns				20
Storage time	t_s	ns	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$			225
Fall time	t_f	ns				30



MMBT4401

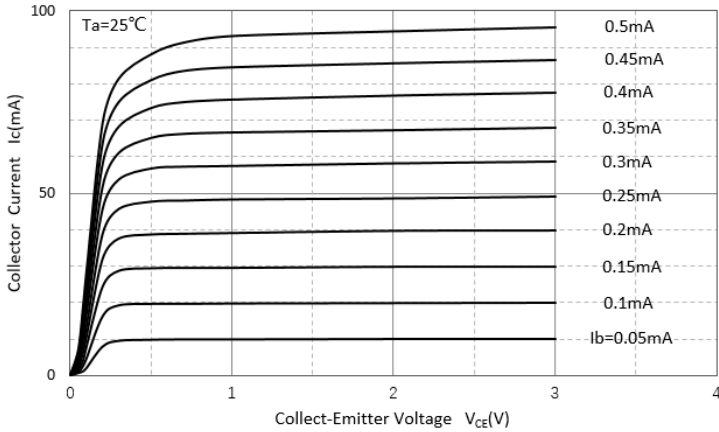
RoHS
COMPLIANT

Ordering Information (Example)

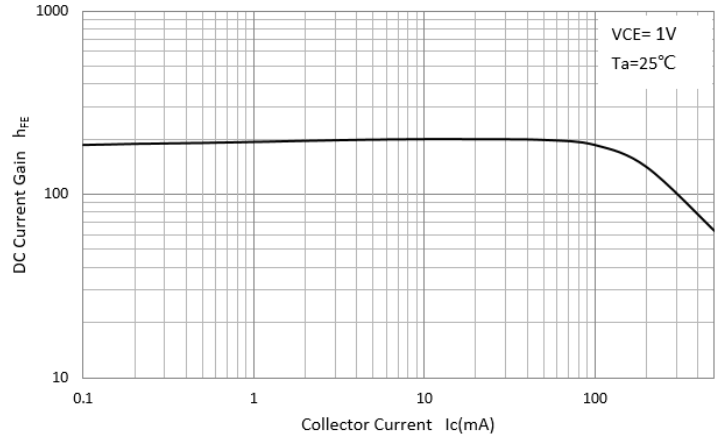
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT4401	F2	Approximate 0.008	3000	30000	120000	7" reel

Characteristics (Typical)

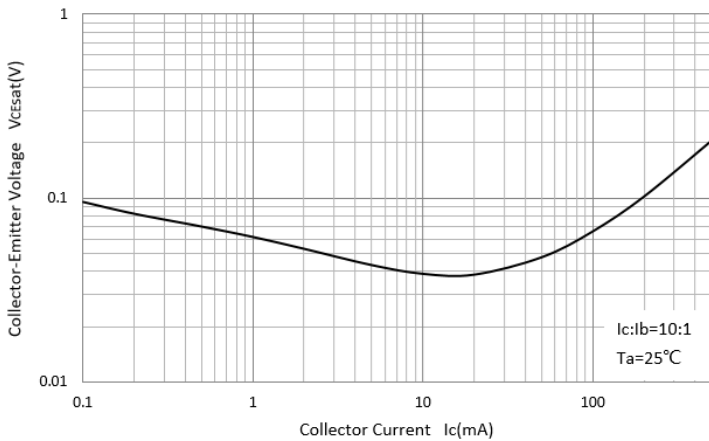
Static Characteristic



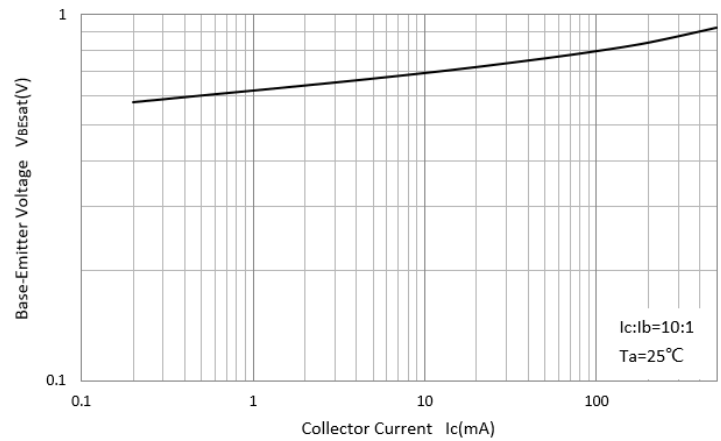
DC Current Gain



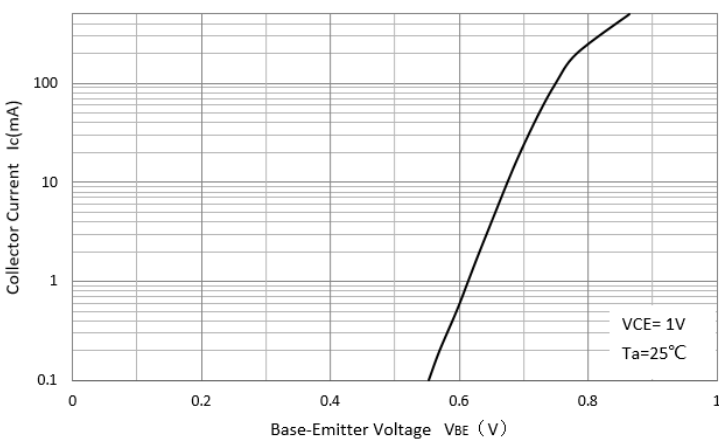
Collector-Emittor Saturation Voltage



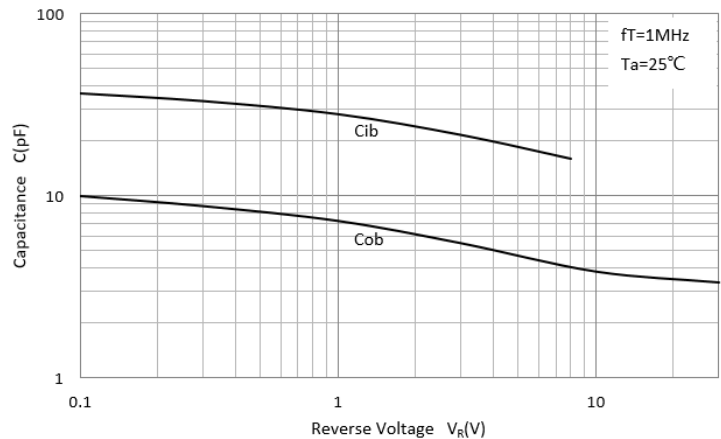
Base-Emittor Saturation Voltage



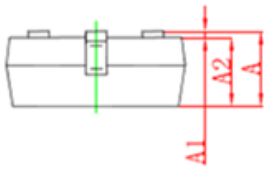
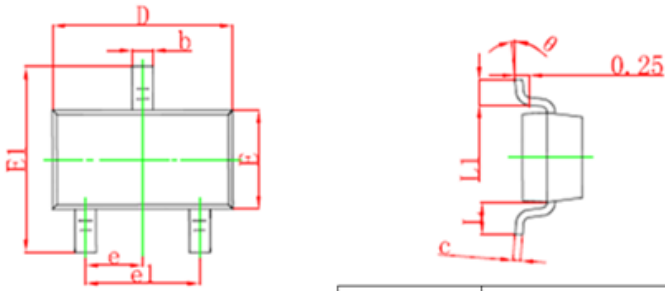
Base-Emittor On Voltage



$C_{ob}/C_{ib}-V_{CB}/V_{EB}$

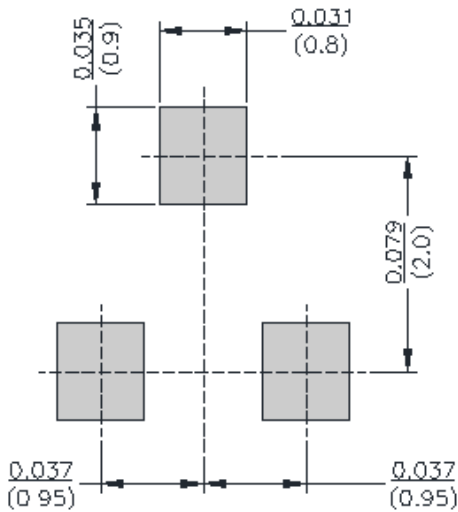


■SOT-23 Package Outline Dimensions



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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