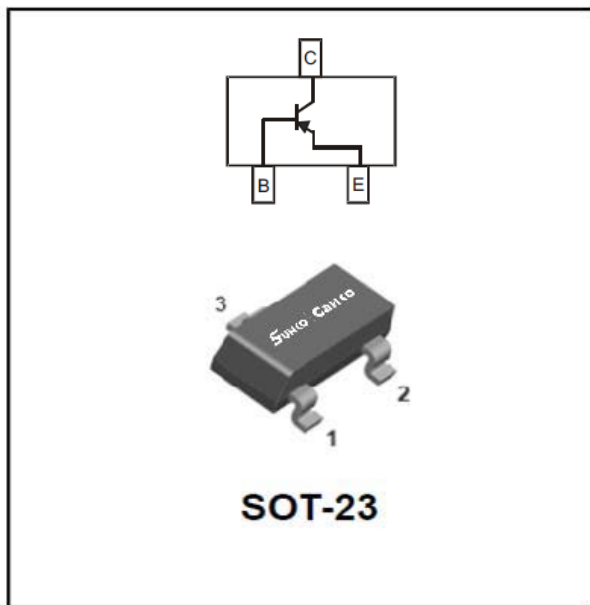


PNP General Purpose Amplifier



Features

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

■Maximum Rantings (Ta=25°C)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage*	V_{CE0}	V	$I_C=-1.0mA$, $I_B=0$	-160
Collector-Base Voltage	V_{CBO}	V	$I_C=-100\mu A$, $I_E=0$	-180
Emitter-Base Voltage	V_{EBO}	V	$I_E=-10\mu A$, $I_C=0$	-6.0
Collector Current	I_C	mA		-600
Collector Power Dissipation	P_C	mW		300
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C/W		417
Operation Junction Temperature	T_J	°C		150
Storage Temperature	T_{stg}	°C		-55 to +150

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT5401	F2	Approximate 0.008	3000	30000	120000	7" reel

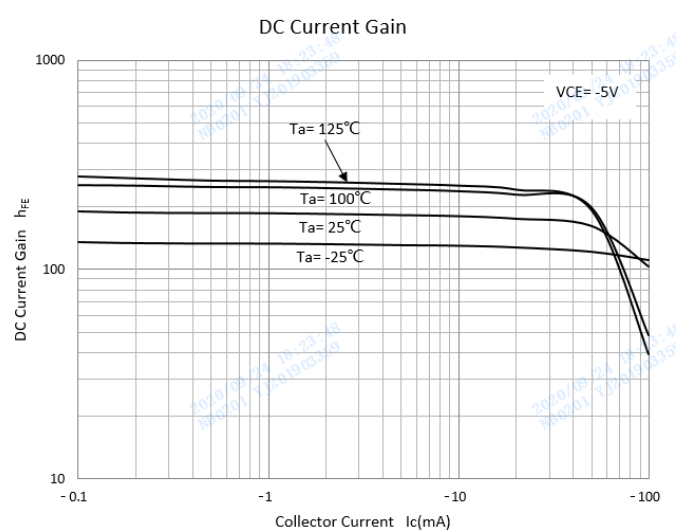
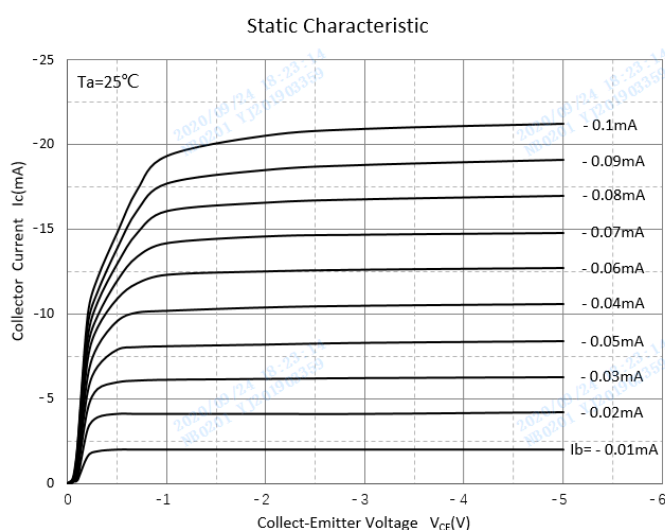
■Electrical Characteristics (T_a=25°C)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage*	V _{CEO}	V	I _C =-1.0mA, I _B =0	-160	
Collector-Base Voltage	V _{CBO}	V	I _C =-100μA, I _E =0	-180	
Emitter-Base Voltage	V _{EBO}	V	I _E =-10μA, I _C =0	-6.0	
Collector-base Cut-off Current	I _{CBO}	nA	V _{CB} =-120Vdc		-50
Base-emitter Cut-off Current	I _{EB0}	nA	V _{EB} =-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)1}	V	I _C =-10mA I _B =-1.0mA		-0.2
	V _{CE(sat)2}	V	I _C =-50mA I _B =-5.0mA		-0.5
Base-Emitter Saturation Voltage	V _{BE(sat)1}	V	I _C =-10mA I _B =-1.0mA		-1.0
	V _{BE(sat)2}	V	I _C =-50mA I _B =-5.0mA		-1.0

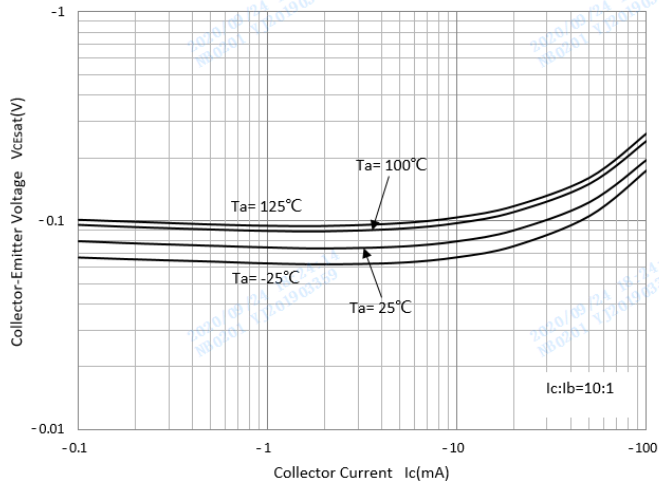
■Small-signal Characteristics (T_a=25°C)

Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	f _T	MHz	I _C =-10mA, V _{CE} =-5.0Vdc, f=30MHz	100	300

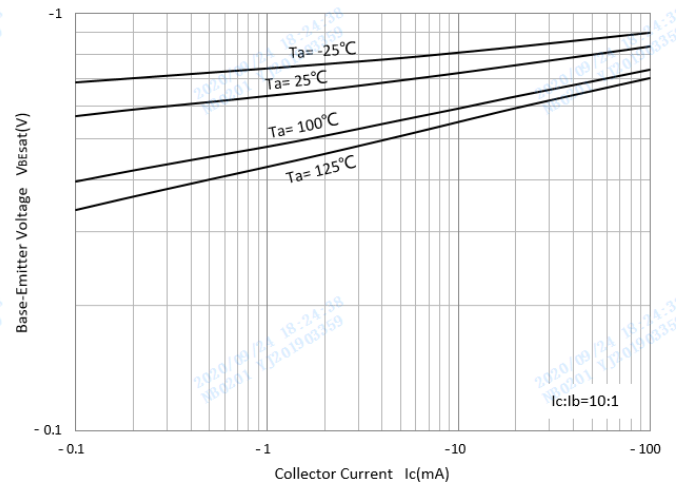
■Characteristics(Typical)



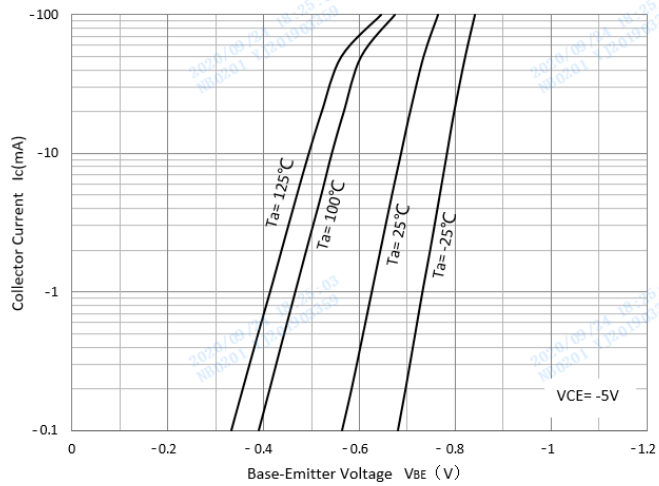
Collector-Emitter Saturation Voltage



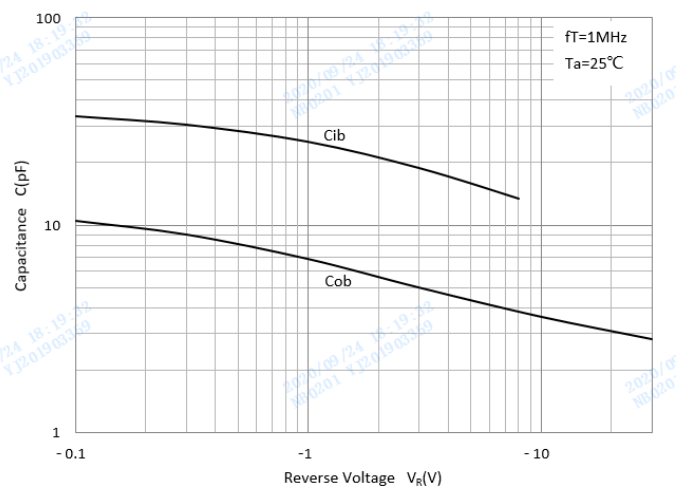
Base-Emitter Saturation Voltage



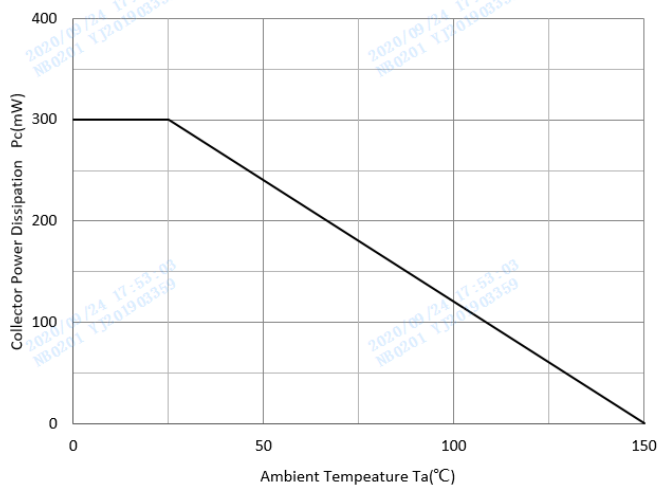
Base-Emitter On Voltage



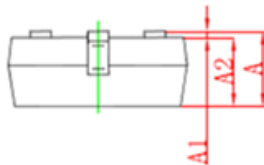
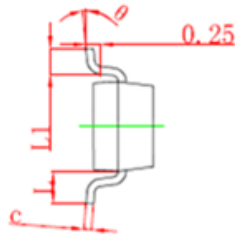
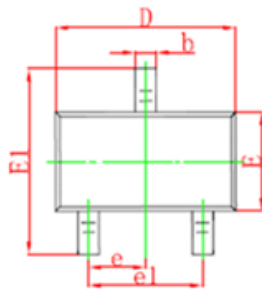
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



Collector Power Derating Curve

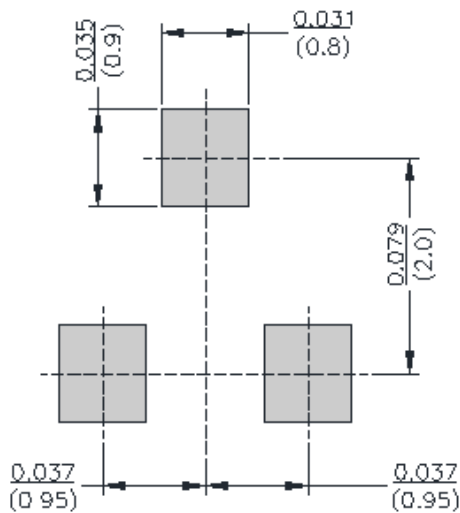


■SOT-23 Package Outline Dimensions



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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