



Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
Tel:818-701-4933

MMBT4401

NPN General Purpose Amplifier

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 350mWatts of Power Dissipation and 600mA I_c
- Operating and Storage Junction Temperatures: -55°C to 150°C
- Thermal Resistance Junction to Ambient: 357°C/W
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 2X/M4A

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage* (I _c =1.0mA, I _b =0)	40		Vdc
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _c =10mA, I _e =0)	60		Vdc
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _e =0.1mA, I _c =0)	6.0		Vdc
I _{BL}	Base Cutoff Current (V _{CE} =35Vdc, V _{BE} =0.4Vdc)		0.1	μAdc
I _{CEX}	Collector Cutoff Current (V _{CE} =35Vdc, V _{BE} =0.4Vdc)		0.1	μAdc

ON CHARACTERISTICS

h _{FE}	DC Current Gain* (I _c =0.1mA, V _{CE} =1.0Vdc) (I _c =1.0mA, V _{CE} =1.0Vdc) (I _c =10mA, V _{CE} =1.0Vdc) (I _c =150mA, V _{CE} =1.0Vdc) (I _c =500mA, V _{CE} =1.0Vdc)	20		
		40		
		80	300	
		40		
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _c =150mA, I _b =15mA) (I _c =500mA, I _b =50mA)		0.4 0.75	Vdc
V _{BE(sat)}	Base-Emitter Saturation Voltage (I _c =150mA, I _b =15mA) (I _c =500mA, I _b =50mA)	0.75	0.95 1.2	Vdc

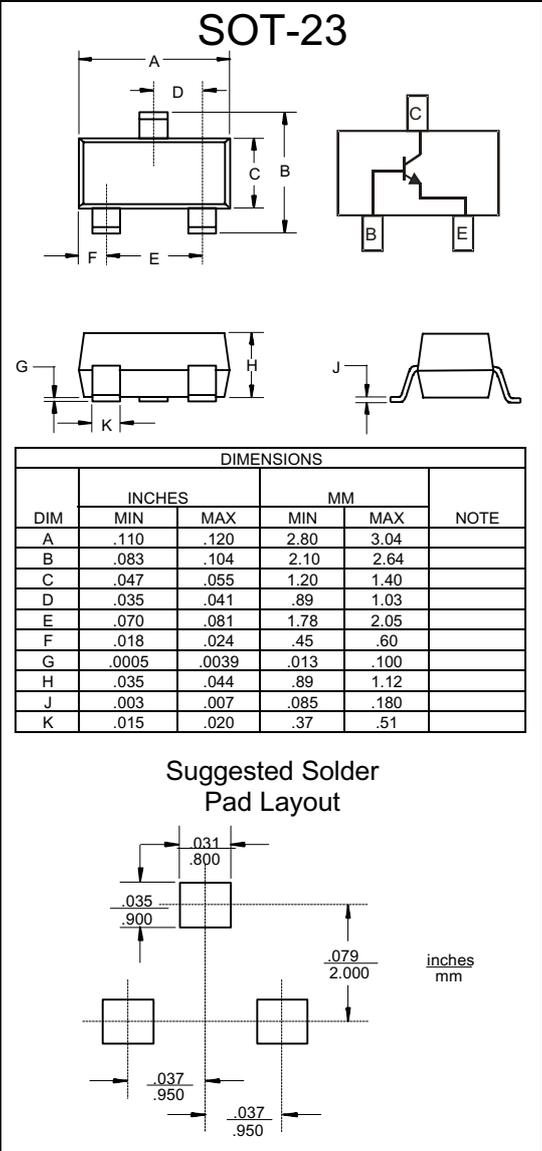
SMALL-SIGNAL CHARACTERISTICS

f _T	Current Gain-Bandwidth Product (I _c =20mA, V _{CE} =10Vdc, f=100MHz)	250		MHz
C _{cb}	Collector-Base Capacitance (V _{CB} =5.0Vdc, I _e =0, f=1.0MHz)		6.5	pF
C _{eb}	Emitter-Base Capacitance (V _{BE} =0.5Vdc, I _c =0, f=1.0MHz)		30.0	pF

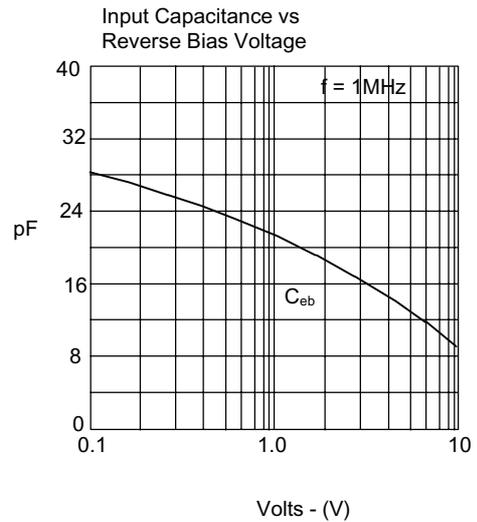
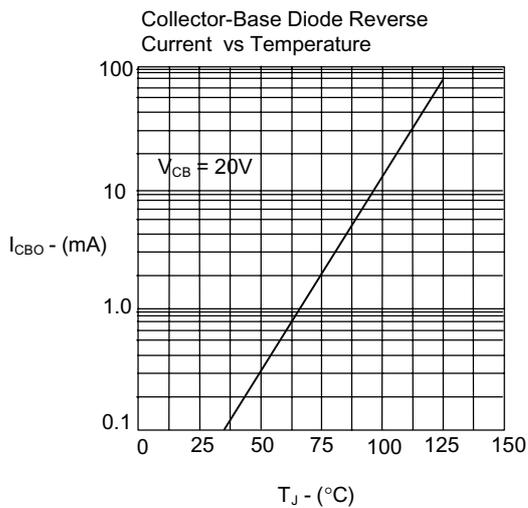
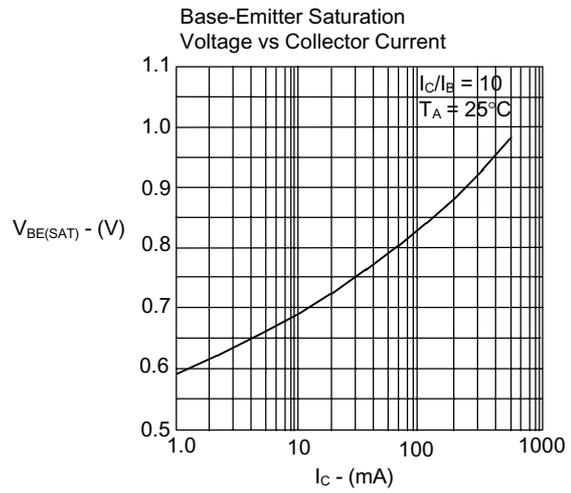
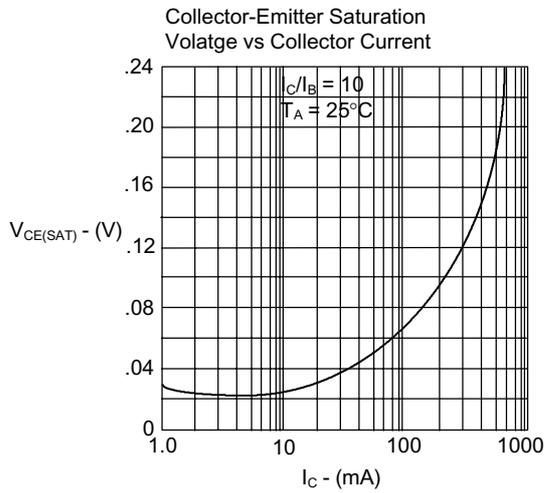
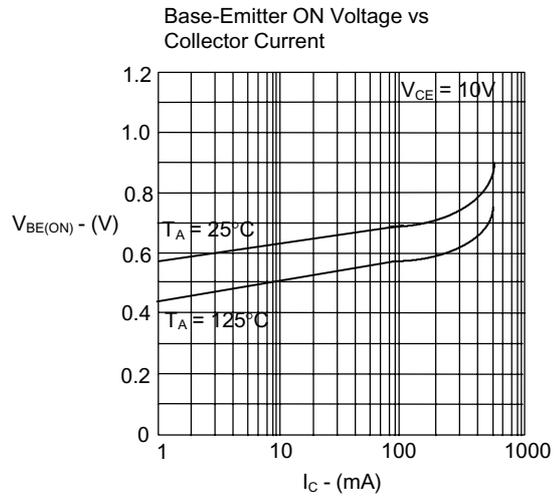
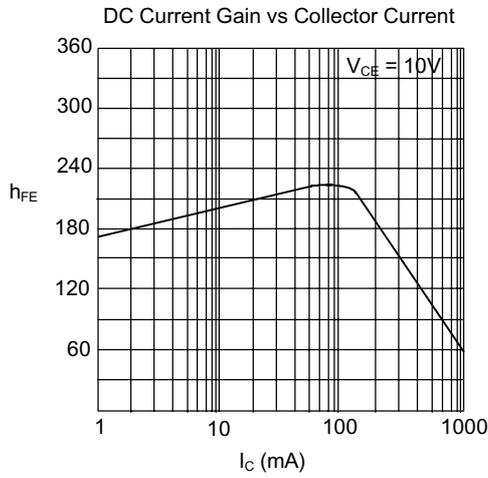
SWITCHING CHARACTERISTICS

t _d	Delay Time	(V _{CC} =30Vdc, V _{BE} =0.2Vdc)	15	ns
t _r	Rise Time	I _c =150mA, I _{B1} =15mA	20	ns
t _s	Storage Time	(V _{CC} =30Vdc, I _c =150mA)	225	ns
t _f	Fall Time	I _{B1} =I _{B2} =15mA	30	ns

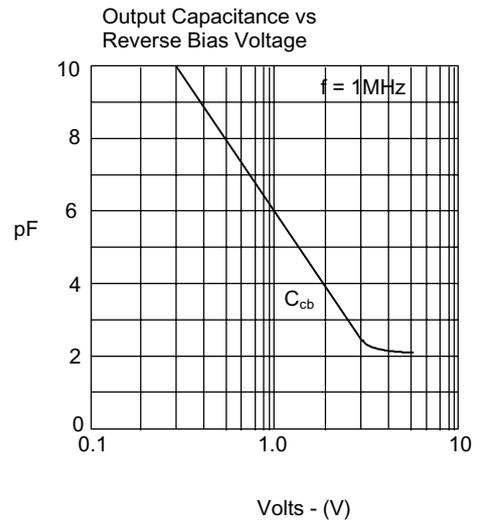
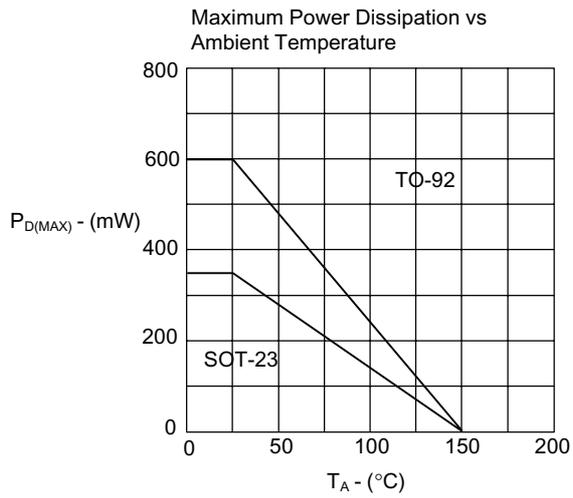
*Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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