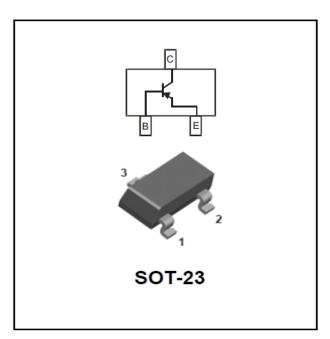




# **PNP General Purpose Amplifier**



#### **Features**

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

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

Item	Symbol	Unit	Value
Collector-Base Voltage	$V_{\sf CBO}$	V	-40
Collector-Emitter Voltage	V <sub>CEO</sub>	V	-40
Emitter-Base Voltage	$V_{EBO}$	V	-5
Collector Current	Ic	А	-0.6
Collector Power Dissipation	Pc	mW	300
Thermal Resistance From Junction To Ambient	R <sub>0JA</sub>	°C/W	417
Operation Junction Temperature	Tj	℃	150
Storage Temperature	$T_{stg}$	℃	-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
MMBT4403	F2	Approximate 0.008	3000	30000	120000	7" reel

## **MMBT4403**



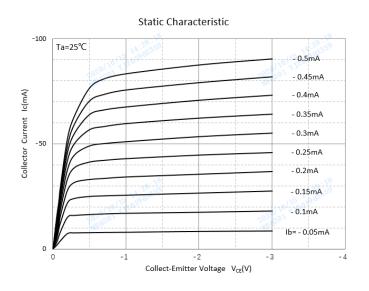
#### ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

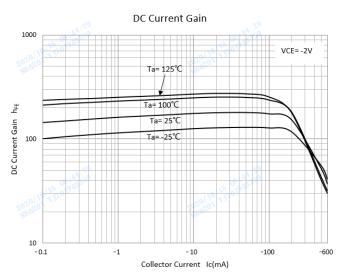
Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V <sub>CBO</sub>	V	IC=-100μ A,IE=0	-40	
Collector-emitter breakdown voltage	V <sub>CEO</sub>	V	IC =-1mA,IB=0	-40	
Emitter-base breakdown voltage	V <sub>EBO</sub>	V	IE=-100μ A,IC=0	-5	
Collector-Base cut-off current	I <sub>CBO</sub>	uA	VCB=-35V,IE=0		-0.1
Collector-emitter cut-off current	I <sub>CEO</sub>	uA	VCE=-35V, IB =0		-0.1
Emitter-base cut-off current	I <sub>EBO</sub>	uA	VEB=-4V, IC=0V		-0.1
DC current gain	h <sub>FE</sub>	V	VCE=-2V,IC=-150mA	100	300
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	IC=-150mA,IB=-15mA		-0.4
Base-emitter saturation voltage	$V_{BE(sat)}$	V	IC=-150mA,IB=-15mA		-0.95

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

ltem	Symbol	Unit	Conditions	Min	Max	
Transition frequency	Ft	MHz	VCE=-10V,IC=-20mA,f=100MHz	200		
Delay time	td	ns	VCC=-30V,VEB=-2V		15	
Rise time	tr	ns	IC=-150mA, IB1=-15mA		20	
Storage time	ts	ns	VCC=-30V,IC=-150mA,		225	
Fall time	tf	ns	IB1= IB2=-15mA		60	

### ■ Characteristics (Typical)

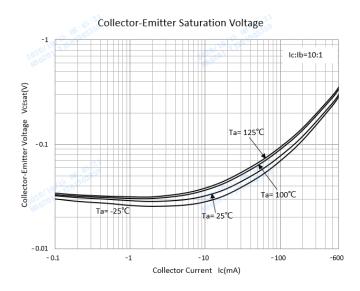


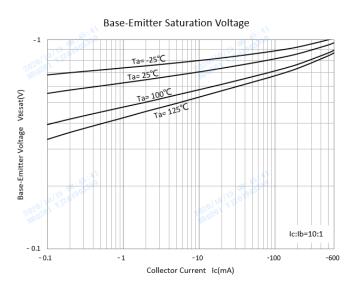


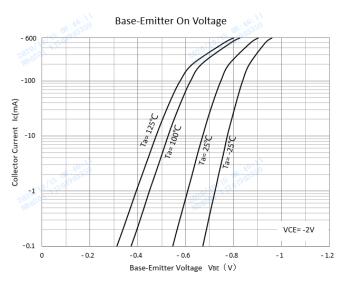


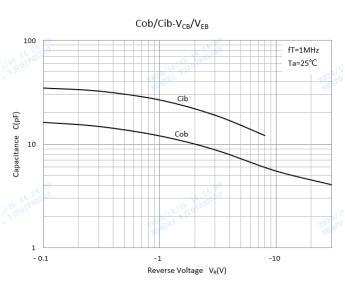


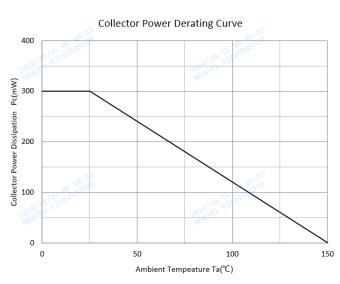










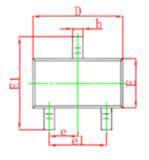


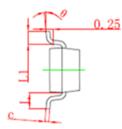


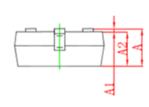




## ■SOT-23 Package Outline Dimensions

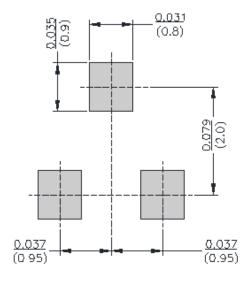






Symbol Symbol	Dimensions In	Millimeters	Dimensions In Inches		
	Min	Max	Min	Max	
A	0. 900	1. 150	0.035	0. 045	
A1	0.000	0. 100	0.000	0.004	
A2	0. 900	1. 050	0. 035	0.041	
b	0.300	0.500	0.012	0.020	
c	0. 100	0. 200	0.004	0.008	
D	2, 800	3, 000	0. 110	0. 118	
Е	1. 200	1. 400	0.047	0.055	
E1	2. 250	2.550	0.089	0.100	
e	0. 95	OTYP	0. 037TYP		
e1	1. 800	2.000	0.071	0.079	
L	0.55	OREF	0. 022REF		
L1	0.300	0.500	0.012	0.020	
θ	0°	8°	0°	8°	

### **■**SOT-23 Soldering Footprint





### **MMBT4403**



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