



Micro Commercial Components



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FMMT493

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Power dissipation: $P_{CM}=250\text{mW}(T_{amb}=25^{\circ}\text{C})$
- Collector current: $I_C=1\text{A}$
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 493

Maximum Ratings*

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	100	V
V_{CBO}	Collector-Base Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current	1.0	A
P_{tot}	Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	250	mW
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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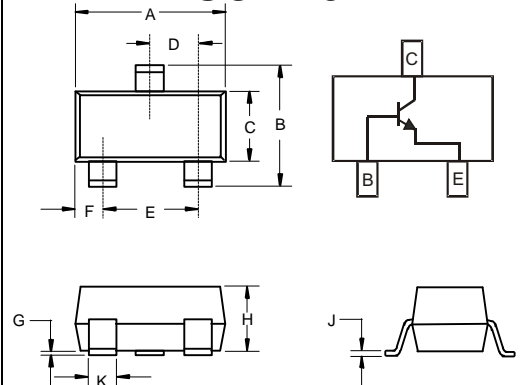
OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=10\text{mA}$, $I_B=0$)	100	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu\text{A}$, $I_E=0$)	120	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu\text{A}$, $I_C=0$)	5.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=100\text{Vdc}$, $I_E=0\text{Vdc}$)	---	0.1	μA
I_{EBO}	Emitter Cutoff Current ($V_{EB}=4.0\text{Vdc}$, $I_C=0$)	---	0.1	μA
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage* ($I_C=500\text{mA}$, $I_B=50\text{mA}$) ($I_C=1\text{A}$, $I_B=100\text{mA}$)	---	0.3 0.6	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage* ($I_C=1\text{A}$, $I_B=100\text{mA}$)	---	1.15	Vdc
$V_{BE(on)}$	Base-Emitter Turn On Voltage* ($V_{CE}=10\text{Vdc}$, $I_C=1\text{A}$)	---	1	Vdc
h_{FE}	DC Current Gain ($V_{CE}=10\text{Vdc}$, $I_C=1\text{mA}$) ($V_{CE}=10\text{Vdc}$, $I_C=250\text{mA}$)* ($V_{CE}=10\text{Vdc}$, $I_C=500\text{mA}$)* ($V_{CE}=10\text{Vdc}$, $I_C=1\text{A}$)*	100 100 60 20	--- 300 ---	---
f_T	Transition Frequency ($I_C=50\text{mA}$, $V_{CE}=10\text{Vdc}$, $f=100\text{MHz}$)	150	---	MHz
C_{ob}	Output Capacitance ($V_{CB}=10\text{Vdc}$, $f=1.0\text{MHz}$)	---	10	pF

* Measured under pulsed conditions. Pulse width=300us. Duty cycle $\leq 2\%$

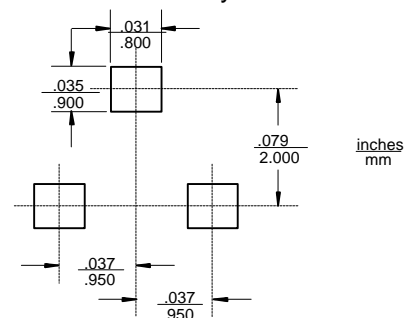
NPN Silicon Planar Medium Power Transistor

SOT-23

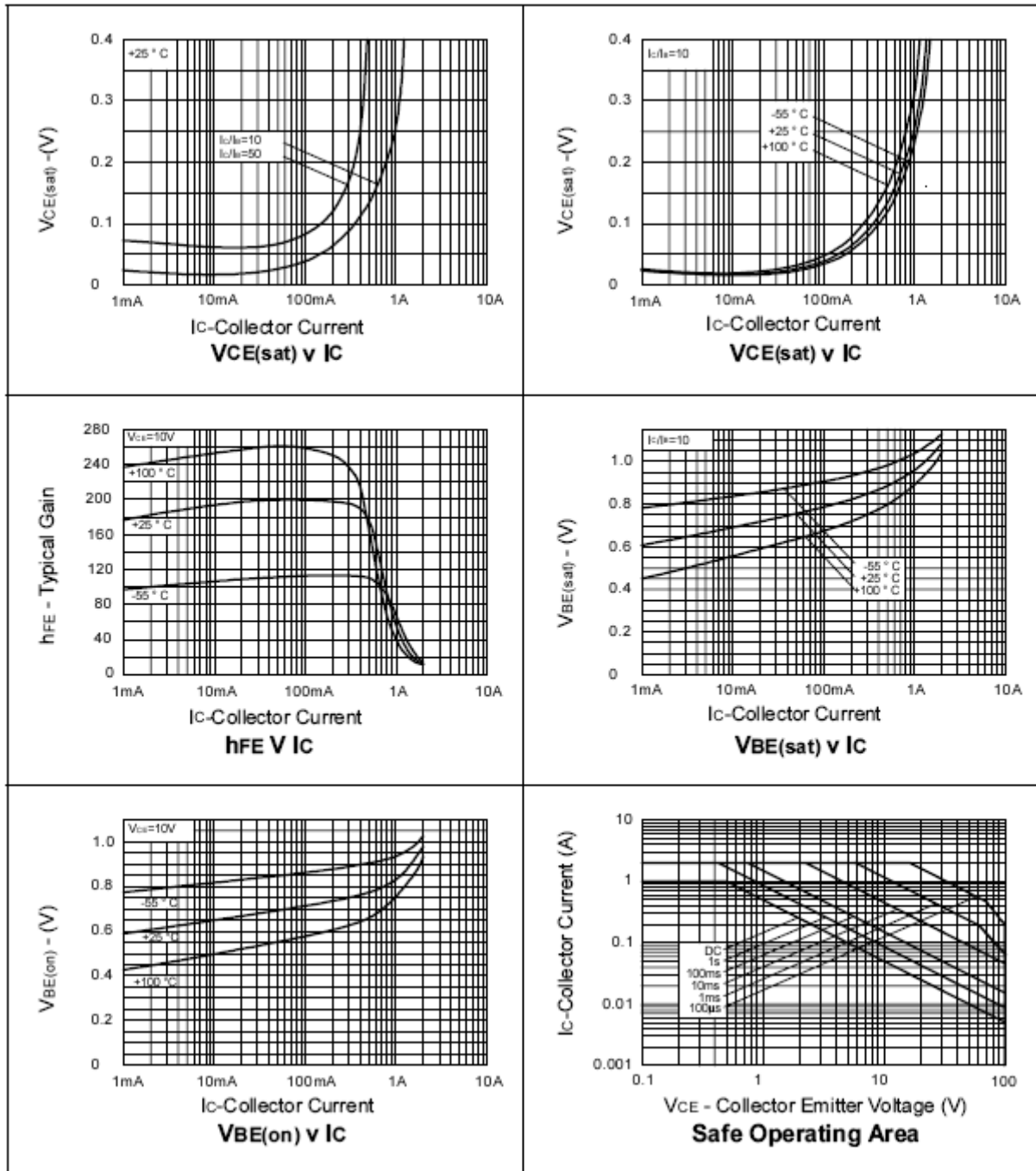


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



TYPICAL CHARACTERISTICS



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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