



Micro Commercial Components



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MMBT589

PNP Silicon Plastic-Encapsulate Transistor

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Thermal Resistance, junction to Ambient: 403 °C/W
- Marking: 589

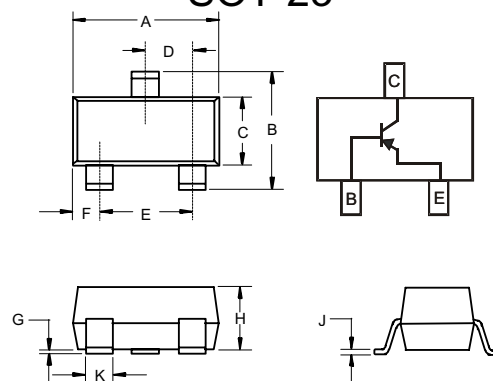
Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{CBO}	Collector-Base Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current, Continuous	-1.0	A
P_D	Power Dissipation	310	mW
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C = -10.0\text{mA}$, $I_B = 0$)	-30		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C = -100\mu\text{A}$, $I_E = 0$)	-50		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E = -100\mu\text{A}$, $I_C = 0$)	-5.0		Vdc
I_{CBO}	Collector cut-off Current ($V_{CB} = -30\text{Vdc}$, $I_E = 0$)		-0.1	μAdc
I_{CES}	Collector Emitter Cut-off Current ($V_{CES} = -30\text{Vdc}$)		-0.1	μAdc
I_{EBO}	Emitter cut-off Current ($V_{EB} = -4\text{Vdc}$, $I_C = 0$)		-0.1	μAdc
h_{FE}	DC Current Gain* ($I_C = -1\text{mA}$, $V_{CE} = -2.0\text{Vdc}$) ($I_C = -500\text{mA}$, $V_{CE} = -2.0\text{Vdc}$) ($I_C = -1000\text{mA}$, $V_{CE} = -2.0\text{Vdc}$) ($I_C = -2000\text{mA}$, $V_{CE} = -2.0\text{Vdc}$)	100 100 80 40	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C = -500\text{mA}$, $I_B = -50\text{mA}$) ($I_C = -1000\text{mA}$, $I_B = -100\text{mA}$) ($I_C = -2000\text{mA}$, $I_B = -200\text{mA}$)		-0.25 -0.4 -0.65	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C = -1000\text{mA}$, $I_B = -100\text{mA}$)		-1.2	Vdc
$V_{BE(on)}$	Base-Emitter Turn-on Voltage ($I_C = -1000\text{mA}$, $V_{CE} = -2\text{Vdc}$)		-1.1	Vdc
f_T	Transition frequency ($I_C = -100\text{mA}$, $V_{CE} = -5\text{Vdc}$, $f = 100\text{MHz}$)	100		MHz
C_{ob}	Collector Output Capacitance ($f = 1.0\text{MHz}$)		15	pF

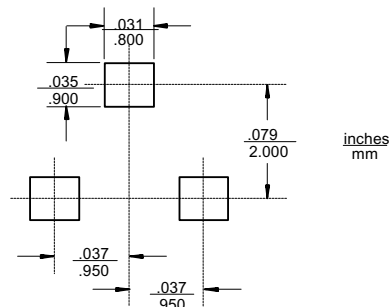
SOT-23



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	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



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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