



Micro Commercial Components



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MMST2222A

NPN Plastic-Encapsulate Transistors

Features

- 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
- Power Dissipation: 0.2W
- Ultra-small surface mount package
- Marking: K3P
- Halogen free available upon request by adding suffix "-HF"

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	40	V
V_{CBO}	Collector-Base Voltage	75	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_{CBO}	Collector Cut-off Current ($V_{CB}=70V, I_E=0$)	100	mA
I_{CEO}	Collector Cut-off Current ($V_{CE}=35V, I_B=0$)	100	mA
I_{EBO}	Emitter Cut-off Current ($V_{EB}=3V, I_C=0$)	100	mA
P_C	Power dissipation ⁽¹⁾	200	mW
T_J	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
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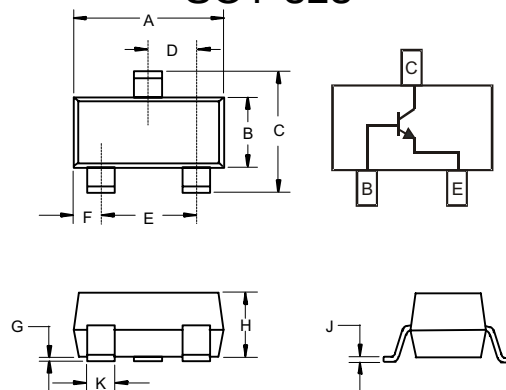
OFF CHARACTERISTICS ⁽²⁾

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0mA, I_B=0$)	40	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=10mA, I_E=0$)	75	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ($I_E=10uA, I_C=0$)	6.0	---	Vdc

ON CHARACTERISTICS ⁽²⁾

h_{FE}	DC Current Gain ($I_C=150mA, V_{CE}=10Vdc$) ($I_C=1.0mA, V_{CE}=10Vdc$)	100 50	300 ---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=500mA, I_B=50mA$)	---	0.6	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=500mA, I_B=50mA$)	---	1.2	Vdc
f_T	Transition Frequency ($V_{CE}=20V, I_C=20mA, f=100MHz$)	300	---	Hz
C_{ob}	Output Capacitance ($V_{CB}=10V, I_E=0mA, f=1MHz$)	---	8	pF
t_d	Delay Time ($V_{CC}=30V, I_{CC}=150mA, V_{BE(off)}=0.5V, I_{B1}=15mA$)	---	10	ns
t_r	Rise Time ($V_{CC}=30V, I_{CC}=150mA, V_{BE(off)}=0.5V, I_{B1}=15mA$)	---	25	ns
t_s	Storage Time ($V_{CC}=30V, I_{CC}=150mA, I_{B1}=I_{B2}=15mA$)	---	225	ns
t_f	Fall Time ($V_{CC}=30V, I_{CC}=150mA, I_{B1}=I_{B2}=15mA$)	---	60	ns

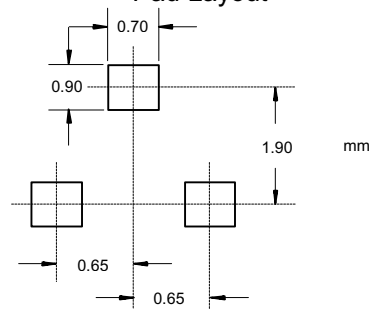
SOT-323



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

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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