



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MMSTA42

NPN Small Signal Transistors

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- Ultra-small surface mount package
- Marking : K3M
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	300	V
V_{CBO}	Collector-Base Voltage	300	V
V_{EBO}	Emitter-Base Voltage	6.0	V
I_C	Collector Current-Continuous ^{(1) (3)}	200	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

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0mA$, $I_B=0$)	300	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=100\mu A$, $I_E=0$)	300	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ($I_E=100\mu A$, $I_C=0$)	6.0	---	Vdc
I_{CBO}	Collector-Base Cutoff Current ($V_{CB}=200Vdc$, $I_E=0$)	---	100	nAdc
I_{EBO}	Emitter-Base Cutoff Current ($V_{CE}=6.0Vdc$, $I_C=0$)	---	100	nAdc

ON CHARACTERISTICS⁽²⁾

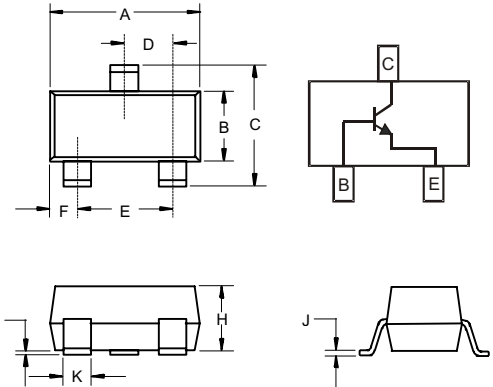
h_{FE}	DC Current Gain ($I_C=1.0mA$, $V_{CE}=10Vdc$) ($I_C=10mA$, $V_{CE}=10Vdc$) ($I_C=30mA$, $V_{CE}=10Vdc$)	25 40 40	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=20mA$, $I_B=2.0mA$)	---	0.5	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=20mA$, $I_B=2.0mA$)	---	0.9	Vdc

SMALL SIGNAL CHARACTERISTICS

f_T	Current-Gain-Bandwidth Product ($V_{CE}=20V$, $f=100MHz$, $I_C=10mA$)	50	---	MHz
C_{CB}	Collector-Base Capacitance ($V_{CB}=20V$, $f=1.0MHz$, $I_E=0$)	---	3.0	pF

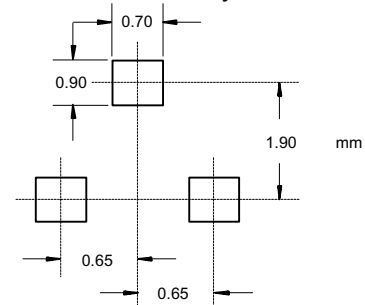
- Note: 1. Valid provided that terminals are kept at ambient temperature.
2. Pulse test: Pulse width<300us, duty cycle<2%
3. When operated within safe operating area constraints.

SOT-323



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
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	.012	.016	.30	.40	

Suggested Solder Pad Layout





Micro Commercial Components

Ordering Information :

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

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

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