



Micro Commercial Components

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# MMST4401

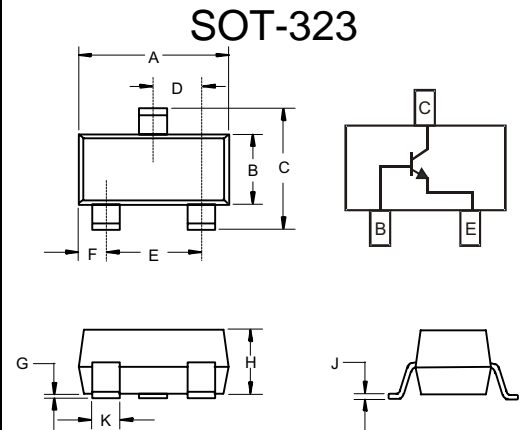
## Features

- Power dissipation: 200mW ( $T_{amb}=25^{\circ}C$ )
- Collector current: 0.6A
- Marking : K3X
- Operating and Storage junction temperature range  
 -55°C to + 150°C
- Case Material: Molded Plastic. UL Flammability  
 Classification Rating 94V-0 and MSL Rating 1

## NPN Small Signal Transistors

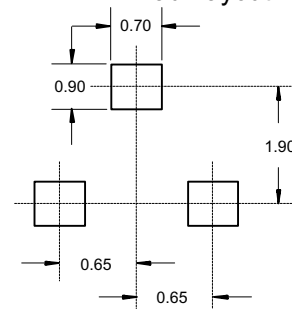
### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units	
<b>OFF CHARACTERISTICS <sup>(2)</sup></b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=1.0mA$ , $I_B=0$ )	40	---	Vdc	
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=100\mu A$ , $I_E=0$ )	60	---	Vdc	
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=100\mu A$ , $I_C=0$ )	6.0	---	Vdc	
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=35Vdc$ , $I_E=0Vdc$ )	---	0.1	$\mu A$	
$I_{CEO}$	Collector Cutoff Current ( $V_{CE}=35Vdc$ , $I_B=0Vdc$ )	---	0.1	$\mu A$	
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5Vdc$ , $I_C=0Vdc$ )	---	0.1	$\mu A$	
$h_{FE}$	DC Current Gain ( $I_C=150mA$ , $V_{CE}=1.0Vdc$ ) ( $I_C=500mA$ , $V_{CE}=2.0Vdc$ )	100 40	300 ---	---	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=150mA$ , $I_B=15mA$ )	---	0.4	Vdc	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=150mA$ , $I_B=15mA$ )	---	0.95	Vdc	
$f_T$	Current Gain-Bandwidth Product ( $V_{CE}=10Vdc$ , $I_C=20mA$ , $f=100MHz$ )	250	---	MHz	
$C_{ob}$	Output Capacitance ( $V_{CB}=10Vdc$ , $f=1.0MHz$ , $I_E=0$ )	---	6.5	pF	
$t_d$	Delay Time	$V_{CC}=30V$ , $I_C=150\mu A$ ,	---	15	ns
$t_r$	Rise Time	$V_{BE(off)}=2V$ , $I_{B1}=15mA$	---	20	ns
$t_s$	Storage Time	$V_{CC}=30V$ , $I_C=150mA$ ,	---	225	ns
$t_f$	Fall Time	$I_{B1}=I_{B2}=15mA$	---	30	ns



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





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## Ordering Information

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

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