



Micro Commercial Components

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# MMDT3904

## Features

- Case Material: Molded Plastic. UL Flammability Classification Rating 94-0 and MSL Rating 1
- Collector Current:  $I_C=0.2A$
- Marking: K6N
- Operating and Storage Junction Temperatures:  $-55^{\circ}C$  to  $150^{\circ}C$

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

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=1.0mA$ , $I_B=0$ )	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=10\mu A$ , $I_E=0$ )	60		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=10\mu A$ , $I_C=0$ )	5.0		Vdc
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=5V$ , $I_C=0$ )		50	nAdc
$I_{CEO}$	Collector Cutoff Current ( $V_{CE}=30V$ , $I_B=0$ )		50	nAdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=30V$ , $I_E=0$ )		50	nAdc

### ON CHARACTERISTICS

$h_{FE}$	DC Current Gain* ( $I_C=10mA$ , $V_{CE}=1.0V$ ) ( $I_C=50mA$ , $V_{CE}=1.0V$ )	100 60	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=50mA$ , $I_B=5.0mA$ )		0.3	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=50mA$ , $I_B=5.0mA$ )		0.95	Vdc

### SMALL-SIGNAL CHARACTERISTICS

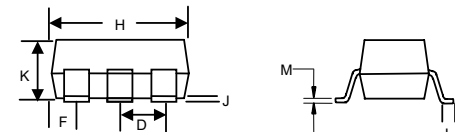
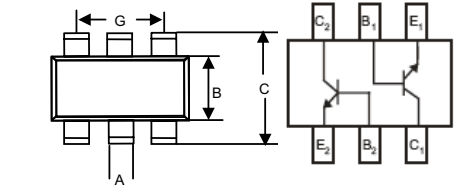
$f_T$	Current Gain-Bandwidth Product ( $I_C=10mA$ , $V_{CE}=20V$ , $f=100MHz$ )	300		MHz
$C_{obo}$	Output Capacitance ( $V_{CB}=5.0V$ , $I_E=0$ , $f=1.0MHz$ )		4.0	pF

### SWITCHING CHARACTERISTICS

$t_d$	Delay Time	( $V_{CC}=3.0V$ , $V_{BE}=0.5V$ )	35	ns
$t_r$	Rise Time	( $I_C=10mA$ , $I_B=1.0mA$ )	35	ns
$t_s$	Storage Time	( $V_{CC}=3.0V$ , $I_C=10mA$ )	200	ns
$t_f$	Fall Time	( $I_B=I_{B2}=1.0mA$ )	50	ns

## 200mW Plastic-Encapsulate Transistors

### SOT-363



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.004	.012	0.10	0.30	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026		0.65Nominal		
F	.012	.016	0.30	0.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.035	.039	0.90	1.00	
L	.010	.016	0.25	0.40	
M	.004	.016	0.10	0.25	



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## Ordering Information

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

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