



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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Micro Commercial Components

Micro Commercial Components
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MMDT3904V

NPN Plastic-Encapsulate 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 Die Construction
- Ideal for Low Power Amplification and Switching
- Ultra-small Surface Mount Package
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking:KAP

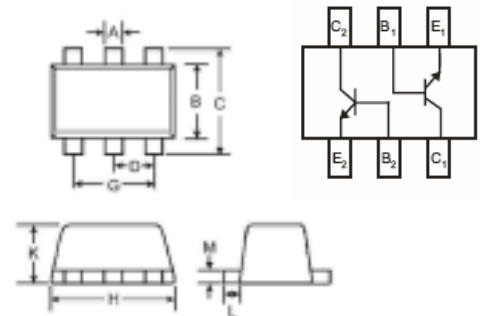
Maximum Ratings @ 250C Unless Otherwise Specified

Symbol	Rating	Rating	Unit
V _{CEO}	Collector-Emitter Voltage	40	V
V _{CBO}	Collector-Base Voltage	60	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current-Continuous	0.2	A
P _C	Collector Dissipation	0.2	W
R _{θJA}	Thermal Resistance Junction to Ambient	625	°C/W
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	Typ	Max	Units
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage (I _C =1mA _{dc} , I _B =0)	40	---	---	Vdc
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _C =10uA _{dc} , I _E =0)	60	---	---	Vdc
V _{(BR)EBO}	Collector-Emitter Breakdown Voltage (I _E =10uA _{dc} , I _C =0)	5	---	---	Vdc
I _{CEX}	Collector Cutoff Current (V _{CE} =60Vdc, V _{EB(OFF)} =3Vdc)	---	---	50	nA _{dc}
I _{BL}	Base Cutoff Current (V _{CE} =60Vdc, V _{EB(OFF)} =3Vdc)	---	---	50	nA _{dc}
h _{FE}	DC Current Gain (I _C =0.1mA _{dc} , V _{CE} =1Vdc) (I _C =1mA _{dc} , V _{CE} =1Vdc) (I _C =10mA _{dc} , V _{CE} =1Vdc) (I _C =50mA _{dc} , V _{CE} =1Vdc) (I _C =100mA _{dc} , V _{CE} =1Vdc)	40 70 100 60 30	---	---	---
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _C =10mA _{dc} , I _B =1mA _{dc}) (I _C =50mA _{dc} , I _B =5mA _{dc})	---	---	0.2 0.3	Vdc
V _{BE(sat)}	Base-Emitter Saturation Voltage (I _C =10mA _{dc} , I _B =1mA _{dc}) (I _C =50mA _{dc} , I _B =5mA _{dc})	0.65 ---	---	0.85 0.95	Vdc

SOT-563



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.006	.011	0.15	0.30	
B	.043	.049	1.10	1.25	
C	.061	.067	1.55	1.70	
D	.020		0.50		
G	.035	.043	0.90	1.10	
H	.059	.067	1.50	1.70	
K	.022	.023	0.56	0.60	
L	.004	.011	0.10	0.30	
M	.004	.007	0.10	0.18	

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Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
f_T	Transition Frequency ($V_{CE}=20V_{dc}$, $I_C=10mA_{dc}$, $f=100MHz$)	300	---	---	MHz
C_{ob}	Output Capacitance ($V_{CB}=5V_{dc}$, $f=1.0MHz$, $I_E=0$)	---	---	4	pF
NF	Noise Figure ($V_{CE}=5V$, $I_C=0.1mA$, $f=1KHz$, $R_S=1k\Omega$)	---	---	5	dB
t_d	Delay Time	---	---	35	ns
t_r	Rise Time				
t_s	Storage Time	---	---	200	ns
t_f	Fall Time				
		---	---	50	ns

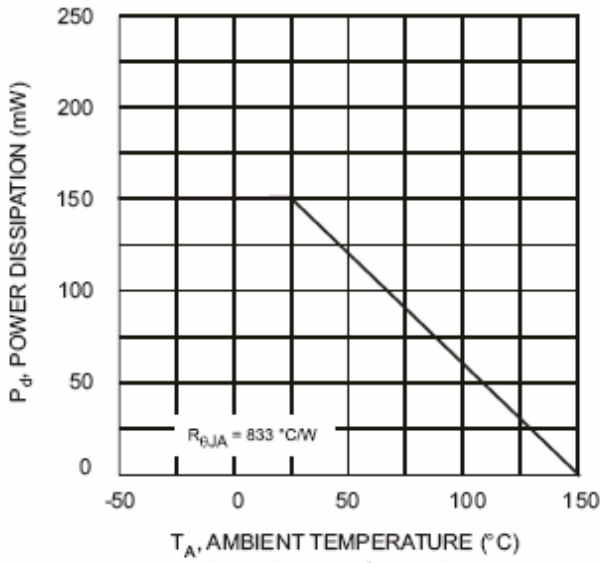


Fig. 1, Derating Curve - Total

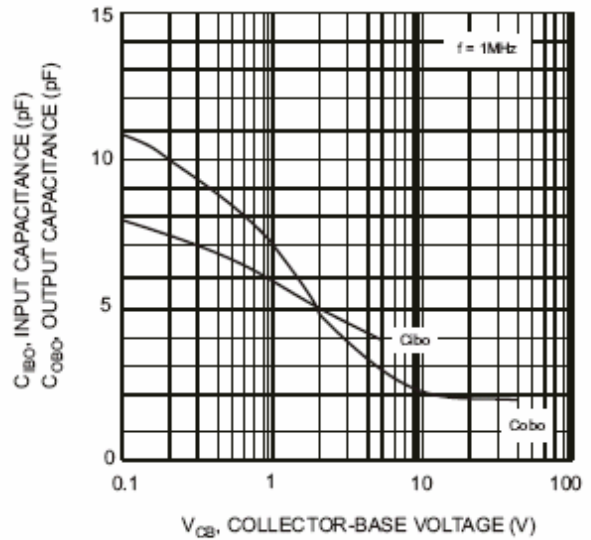


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

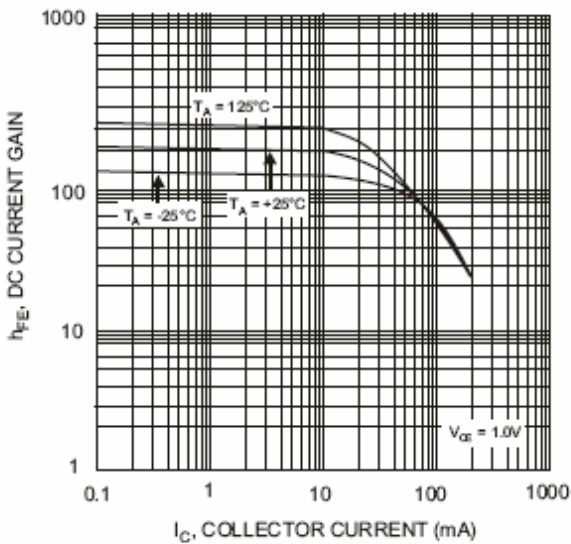


Fig. 3, Typical DC Current Gain vs. Collector Current

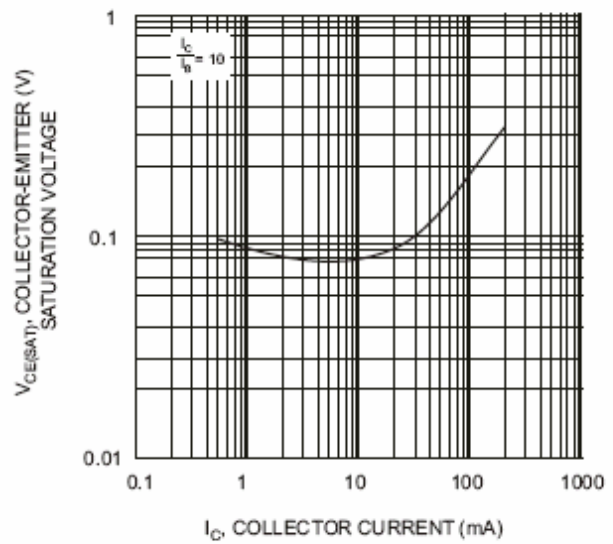


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

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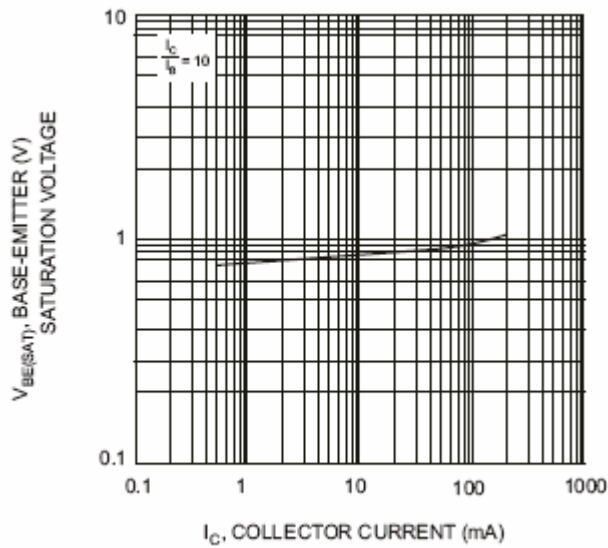


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current



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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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