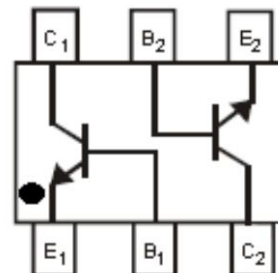


SOT-563 Bipolar Transistor 双极型三极管

■ Features 特点

NPN+NPN Switching 开关

■ Absolute Maximum Ratings 最大额定值



Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Collector-Base Voltage 集电极基极电压	V_{CBO}	60	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	40	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	6	V
Collector Current 集电极电流	I_C	200	mA
Power dissipation 耗散功率	$P_C(T_a=25^{\circ}\text{C})$	150	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^{\circ}\text{C}$	

■ Device Marking 产品打标

MMDT3904V=K6N

■Electrical Characteristics 电特性

(TA=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

Characteristic 特性参数	Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Collector-Base Breakdown Voltage 集电极基极击穿电压(IC=10uA, IE=0)	BV _{CBO}	60	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压(IC=1mA, IB=0)	BV _{CEO}	40	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压(IE=10uA, IC=0)	BV _{EBO}	5	—	—	V
Collector Cut-off Current 集电极截止电流(V _{CE} =30V, V _{BE} = -3V)	I _{CEX}	—	—	50	nA
Base Cut-off Current 基极截止电流(V _{CE} =30V, V _{BE} = -3V)	I _{BL}	—	—	50	nA
DC Current Gain(V _{CE} =1V, IC=0.1mA) 直流电流增益(V _{CE} =1V, IC=1mA) (V _{CE} =1V, IC=10mA) (V _{CE} =1V, IC=50mA) (V _{CE} =1V, IC=100mA)	H _{FE}	40 70 100 60 30	—	300	
Collector-Emitter Saturation Voltage(IC=10mA, IB=1mA) 集电极发射极饱和压降(IC=50mA, IB=5mA)	V _{CE(sat)}	—	—	0.2 0.3	V
Base-Emitter Saturation Voltage(IC=10mA, IB=1mA) 基极发射极饱和压降(IC=50mA, IB=5mA)	V _{BE(sat)}	—	—	0.85 0.95	V
Transition Frequency 特征频率(V _{CE} =20V, IC=10mA)	f _T	300	—	—	MHz
Noise Figure 噪声系数(V _{CE} =5V, IC=100μA, f=1KHz)	NF	—	—	5	db
Delay Time 延迟时间 (V _{CC} =3V, V _{BE} =-0.5V, IC=10mA, IB1=1mA)	t _d	—	—	35	ns
Rise Time 上升时间 (V _{CC} =3V, V _{BE} =-0.5V, IC=10mA, IB1=1mA)	t _r	—	—	35	ns
Storage Time 贮存时间 (V _{CC} =3V, IC=10mA, IB1=IB2=1mA)	t _s	—	—	200	ns
Fall Time 下降时间 (V _{CC} =3V, IC=10mA, IB1=IB2=1mA)	t _f	—	—	50	ns

■ Typical Characteristic Curve 典型特性曲线

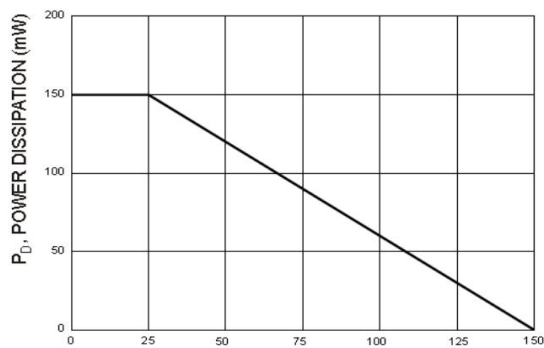


Fig. 1 Power Dissipation vs. Ambient Temperature

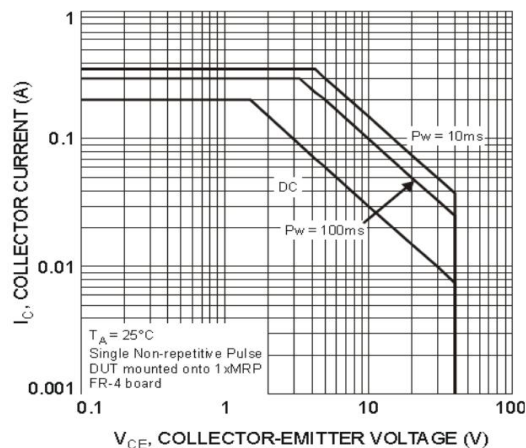


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

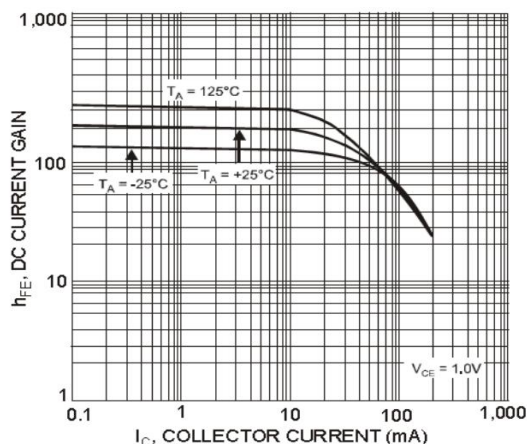


Fig. 3 Typical DC Current Gain vs. Collector Current

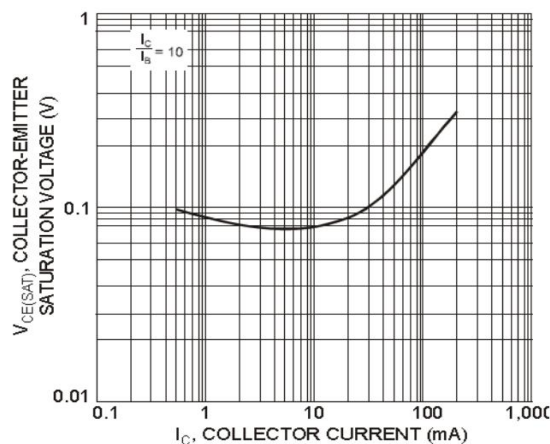


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

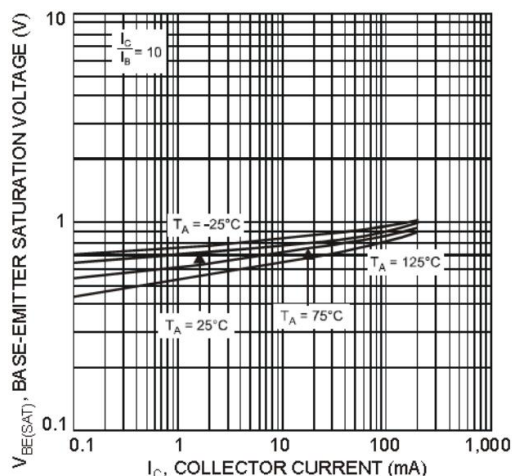


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

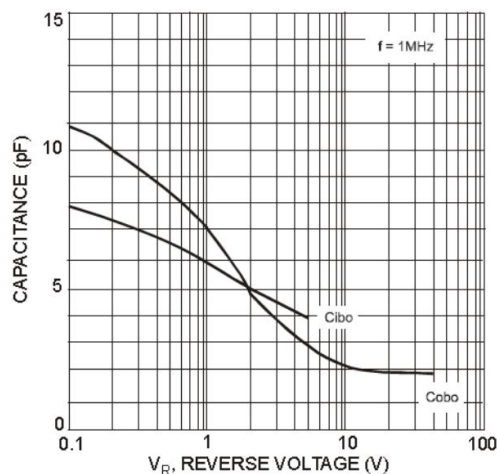
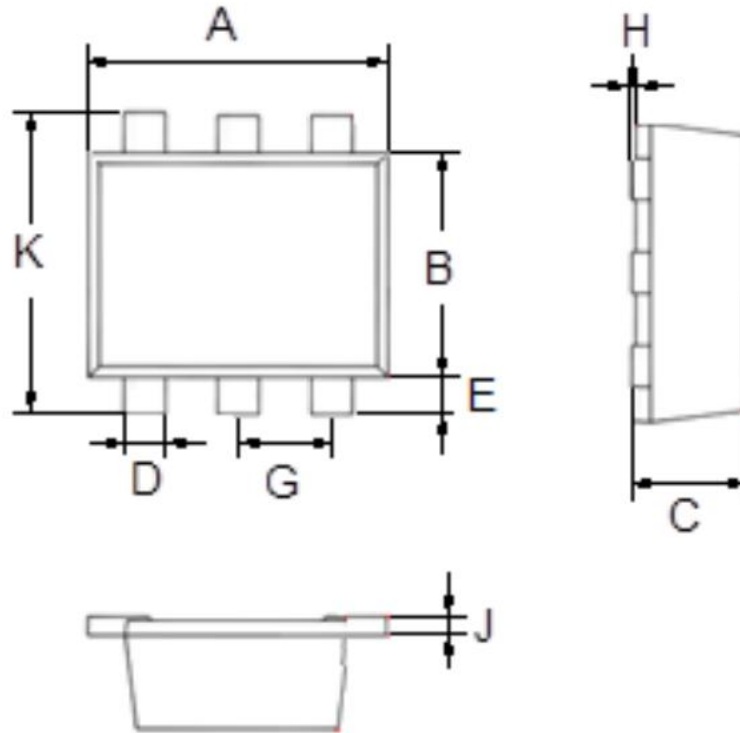


Fig. 6 Typical Capacitance Characteristics

■Dimension 外形封装尺寸



SOT-563		
Dimension	Min.	Max.
A	1.500	1.700
B	1.100	1.300
C	0.525	0.600
D	0.170	0.270
E	0.100	0.300
G	0.450	0.550
H	0.000	0.050
J	0.090	0.160
K	1.500	1.700