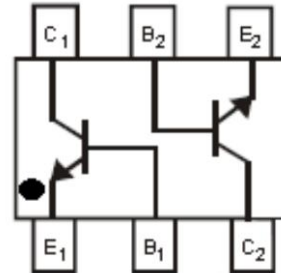


SOT-563 Bipolar Transistor 双极型三极管

■ **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

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

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($I_C=10\mu\text{A}$, $I_E=0$)	BV_{CBO}	60	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压($I_C=1\text{mA}$, $I_B=0$)	BV_{CEO}	40	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压($I_E=10\mu\text{A}$, $I_C=0$)	BV_{EBO}	5	—	—	V
Collector Cut-off Current 集电极截止电流($V_{CE}=30\text{V}$, $V_{BE}=-3\text{V}$)	I_{CEX}	—	—	50	nA
Base Cut-off Current 基极截止电流($V_{CE}=30\text{V}$, $V_{BE}=-3\text{V}$)	I_{BL}	—	—	50	nA
DC Current Gain($V_{CE}=1\text{V}$, $I_C=0.1\text{mA}$) 直流电流增益($V_{CE}=1\text{V}$, $I_C=1\text{mA}$) ($V_{CE}=1\text{V}$, $I_C=10\text{mA}$) ($V_{CE}=1\text{V}$, $I_C=50\text{mA}$) ($V_{CE}=1\text{V}$, $I_C=100\text{mA}$)	H_{FE}	40 70 100 60 30	—	300	
Collector-Emitter Saturation Voltage($I_C=10\text{mA}$, $I_B=1\text{mA}$) 集电极发射极饱和压降($I_C=50\text{mA}$, $I_B=5\text{mA}$)	$V_{CE(sat)}$	—	—	0.2 0.3	V
Base-Emitter Saturation Voltage($I_C=10\text{mA}$, $I_B=1\text{mA}$) 基极发射极饱和压降($I_C=50\text{mA}$, $I_B=5\text{mA}$)	$V_{BE(sat)}$	—	—	0.85 0.95	V
Transition Frequency 特征频率($V_{CE}=20\text{V}$, $I_C=10\text{mA}$)	f_T	300	—	—	MHz
Noise Figure 噪声系数($V_{CE}=5\text{V}$, $I_C=100\mu\text{A}$, $f=1\text{KHz}$)	NF	—	—	5	db
Delay Time 延迟时间 ($V_{CC}=3\text{V}$, $V_{BE}=-0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1\text{mA}$)	t_d	—	—	35	ns
Rise Time 上升时间 ($V_{CC}=3\text{V}$, $V_{BE}=-0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1\text{mA}$)	t_r	—	—	35	ns
Storage Time 贮存时间 ($V_{CC}=3\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1\text{mA}$)	t_s	—	—	200	ns
Fall Time 下降时间 ($V_{CC}=3\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1\text{mA}$)	t_f	—	—	50	ns

■ Typical Characteristic Curve 典型特性曲线

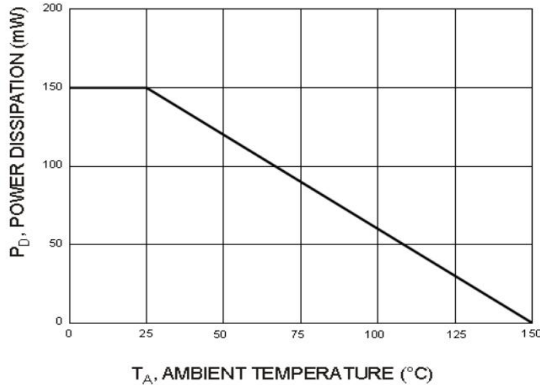


Fig. 1 Power Dissipation vs. Ambient Temperature

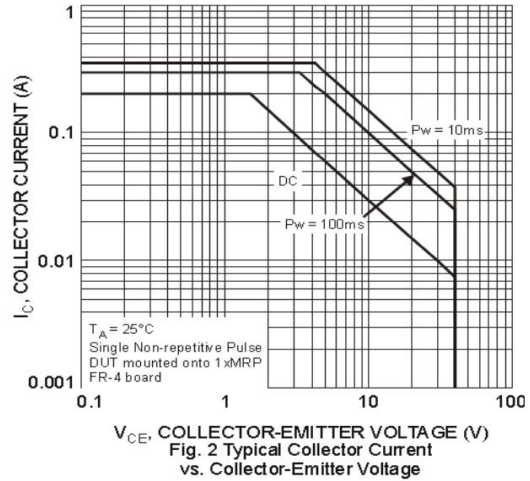


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

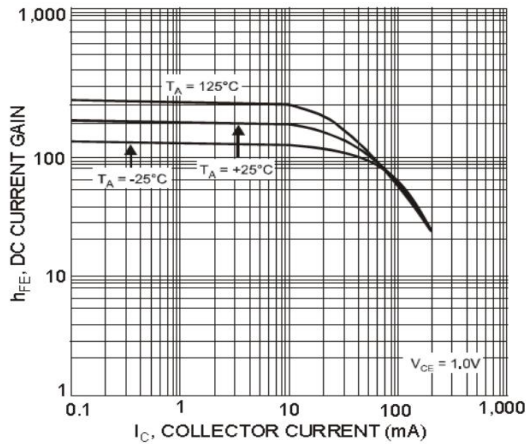


Fig. 3 Typical DC Current Gain vs. Collector Current

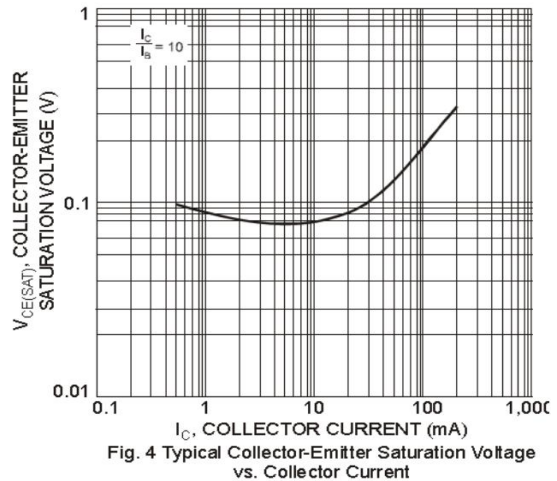


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

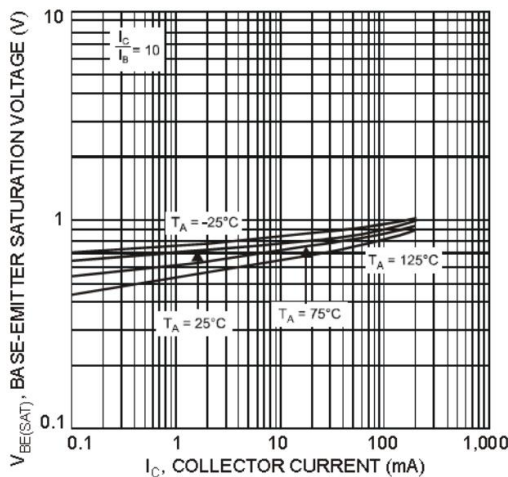


Fig. 5 Typical Base-Emitter Saturation Voltage vs. Collector Current

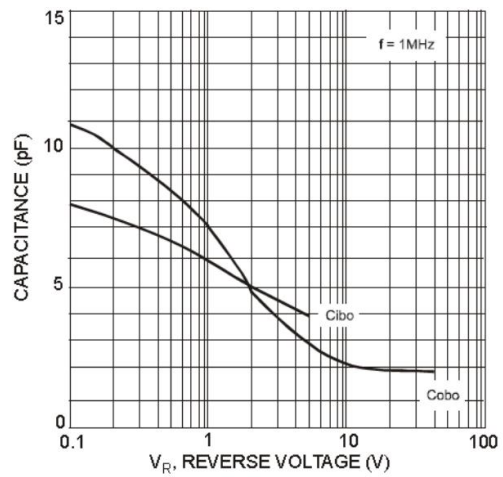
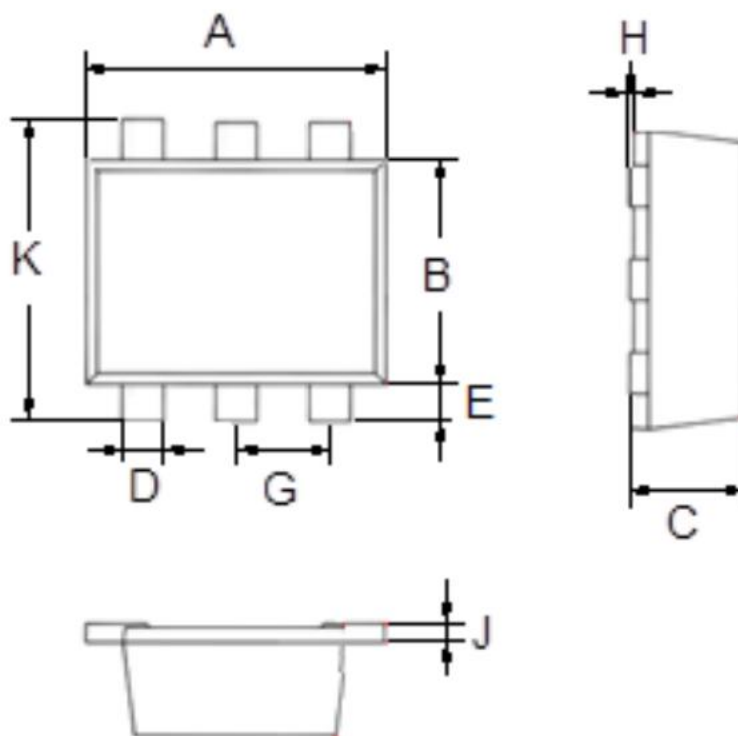


Fig. 6 Typical Capacitance Characteristics

■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