



安徽富信半导体科技有限公司

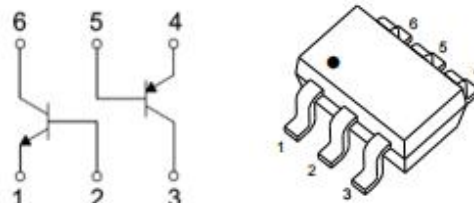
ANHUI FOSAN SEMICONDUCTOR TECHNOLOGY CO., LTD.

MMDT5451DW

SOT-363 Bipolar Transistor 双极型三极管

■ Features 特点

NPN+PNP High Voltage 高压



■ 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}	180/-160	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	160/-150	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	6/-5	V
Collector Current 集电极电流	I_C	200/-200	mA
Power dissipation 耗散功率	$P_C(T_a=25^\circ C)$	200	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	625	$^\circ C/W$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^\circ C$	

■ Device Marking 产品打标

Marking	KNM
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■ Electrical Characteristics 电特性(NPN)

(TA=25°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 =100uA, I _E =0)	BV _{CBO}	180	—	—	V
Collector-Emitter Breakdown Voltage 集电极发射极击穿电压(I _C =1mA, I _B =0)	BV _{CEO}	160	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压(I _E =10uA, I _C =0)	BV _{EBO}	6	—	—	V
Collector-Base Leakage Current 集电极基极漏电流(V _{CB} =120V, I _E =0)	I _{CBO}	—	—	50	nA
Emitter-Base Leakage Current 发射极基极漏电流(V _{EB} =4V, I _C =0)	I _{EBO}	—	—	50	nA
DC Current Gain 直流电流增益(V _{CE} =5V, I _C =1mA)	H _{FE} (1)	80	—	—	
DC Current Gain 直流电流增益(V _{CE} =5V, I _C =10mA)	H _{FE} (2)	100	—	300	
DC Current Gain 直流电流增益(V _{CE} =5V, I _C =50mA)	H _{FE} (3)	30	—	—	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降(I _C =10mA, I _B =1mA) (I _C =50mA, I _B =5mA)	V _{CE(sat)}	—	—	0.15 0.2	V
Base-Emitter Saturation Voltage 基极发射极饱和压降(I _C =10mA, I _B =1mA) (I _C =50mA, I _B =5mA)	V _{BE(sat)}	—	—	1 1	V
Transition Frequency 特征频率(V _{CE} =10V, I _C =10mA, f=100MHz)	f _T	100	—	300	MHz
Noise Figure 特征频率(V _{CE} =5V, I _C =200uA, f=1KHz)	NF	—	—	8	db
Output Capacitance 输出电容(V _{CB} =10V, I _E =0, f=1MHz)	C _{ob}	—	6	—	pF

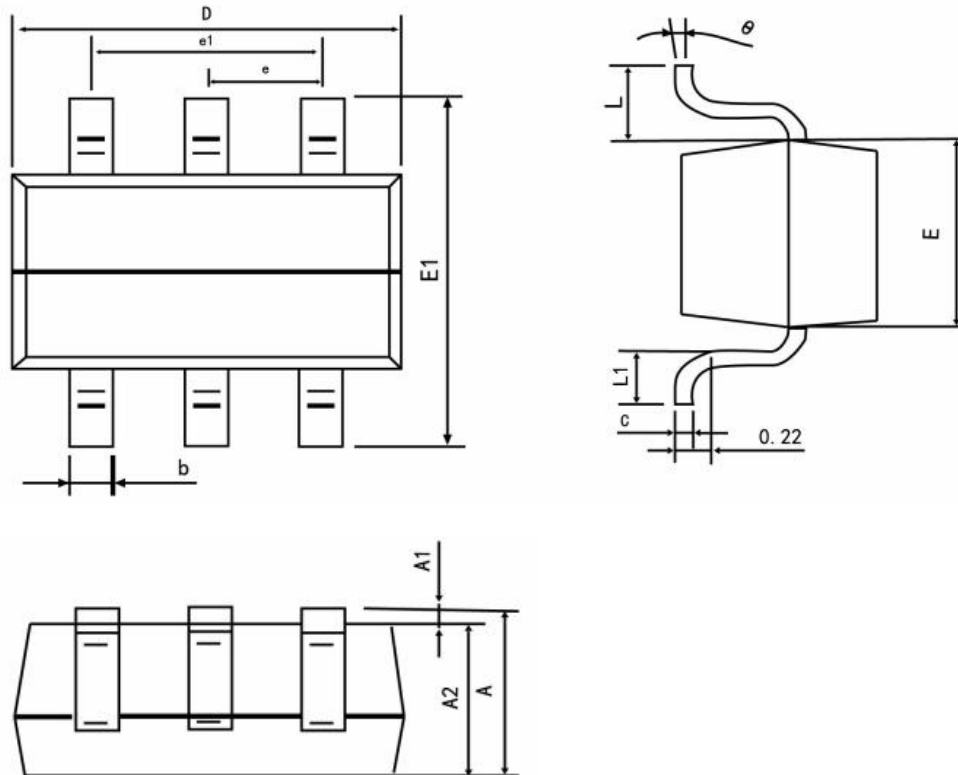


■ Electrical Characteristics 电特性(PNP)

($T_A=25^{\circ}\text{C}$ 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($I_C = -100\mu\text{A}$, $I_E = 0$)	BV_{CBO}	-160	—	—	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}	-150	—	—	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-Base Leakage Current 集电极基极漏电流($V_{CB} = -120\text{V}$, $I_E = 0$)	I_{CBO}	—	—	-50	nA
Emitter-Base Leakage Current 发射极基极漏电流($V_{EB} = -3\text{V}$, $I_C = 0$)	I_{EBO}	—	—	-50	nA
DC Current Gain 直流电流增益($V_{CE} = -5\text{V}$, $I_C = -1\text{mA}$)	$H_{FE(1)}$	50	—	—	
DC Current Gain 直流电流增益($V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$)	$H_{FE(2)}$	100	—	300	
DC Current Gain 直流电流增益($V_{CE} = -5\text{V}$, $I_C = -50\text{mA}$)	$H_{FE(3)}$	50	—	—	
Collector-Emitter Saturation Voltage 集电极发射极饱和压降($I_C = -10\text{mA}$, $I_B = -1\text{mA}$) ($I_C = -50\text{mA}$, $I_B = -5\text{mA}$)	$V_{CE(sat)}$	—	—	-0.2 -0.5	V
Base-Emitter Saturation Voltage 基极发射极饱和压降($I_C = -10\text{mA}$, $I_B = -1\text{mA}$) ($I_C = -50\text{mA}$, $I_B = -5\text{mA}$)	$V_{BE(sat)}$	—	—	-1 -1	V
Transition Frequency 特征频率($V_{CE} = -10\text{V}$, $I_C = -10\text{mA}$)	f_T	100	—	300	MHz
Noise Figure 特征频率($V_{CE} = -5\text{V}$, $I_C = -200\mu\text{A}$, $f = 1\text{KHz}$)	NF	—	—	8	db
Output Capacitance 输出电容($V_{CB} = -5\text{V}$, $I_E = 0$, $f = 1\text{MHz}$)	C_{ob}	—	6	—	pF

■Dimension 外形封装尺寸



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°