

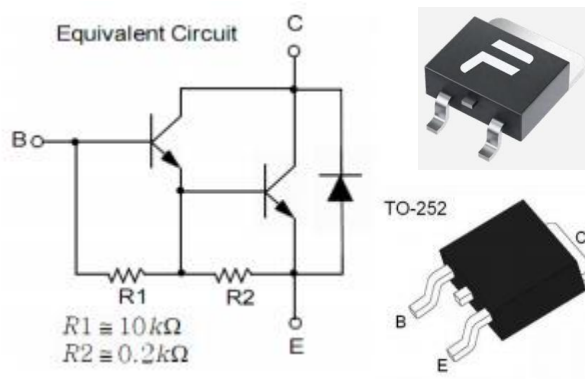
TO-252 Bipolar Transistor 双极型三极管

■ Features 特点

NPN Darlington Amplifier 达林顿放大
Built-in a Damper Diode 内置阻尼二极管

■ Applications 应用

Medium Power Linear Switching 中功率线性开关



■ 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}	100	V
Collector-Emitter Voltage 集电极发射极电压	V_{CEO}	100	V
Emitter-Base Voltage 发射极基极电压	V_{EBO}	5	V
Collector Current 集电极电流	I_C	4	A
Power dissipation 耗散功率	$P_C(T_a=25^{\circ}\text{C})$	1.25	W
Junction Temperature 结温	T_J	150	$^{\circ}\text{C}$
Storage Temperature 储藏温度	T_{stg}	-55to+150	$^{\circ}\text{C}$

■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($I_C=100\mu A$, $I_E=0$)	BV_{CBO}	100	—	—	V
Collector-Emitter Sustaining Voltage 集电极发射极维持电压($I_C=30mA$, $I_B=0$)	$BV_{CEO(sus)}$	100	—	—	V
Emitter-Base Breakdown Voltage 发射极基极击穿电压($I_E=100\mu A$, $I_C=0$)	BV_{EBO}	5	—	—	V
Collector-Base Leakage Current 集电极基极漏电流($V_{CB}=100V$, $I_E=0$)	I_{CBO}	—	—	0.2	mA
Collector-Emitter Leakage Current 集电极发射极漏电流($V_{CE}=50V$, $I_B=0$)	I_{CEO}	—	—	0.5	mA
Emitter-Base Leakage Current 发射极基极漏电流($V_{EB}=5V$, $I_C=0$)	I_{EBO}	—	—	0.2	mA
DC Current Gain($V_{CE}=3V$, $I_C=0.5A$) 直流电流增益($V_{CE}=3V$, $I_C=3A$) ($V_{CE}=3V$, $I_C=5A$)	H_{FE}	500 1000 200	—		
Collector-Emitter Saturation Voltage 集电极发射极饱和压降($I_C=3A$, $I_B=12mA$) ($I_C=5A$, $I_B=20mA$)	$V_{CE(sat)}$	—	—	2 4	V
Base-Emitter On Voltage 基极发射极开通电压($V_{CE}=3V$, $I_C=3A$)	$V_{BE(on)}$	—	—	2.5	V
Transition Frequency 特征频率($V_{CE}=10V$, $I_C=750mA$)	f_T	25	—	—	MHz
Output Capacitance 输出电容($V_{CB}=10V$, $I_E=0$, $f=1MHz$)	C_{ob}	—	—	100	pF

■ Typical Characteristic Curve 典型特性曲线

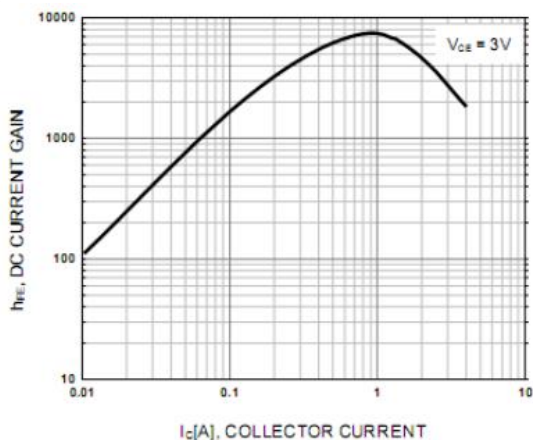


Figure 1. DC current Gain

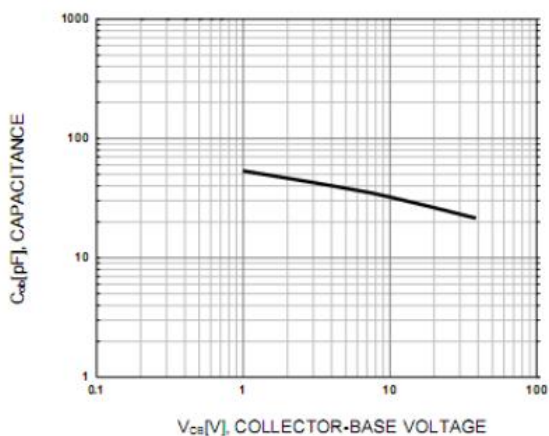


Figure 3. Collector Output Capacitance

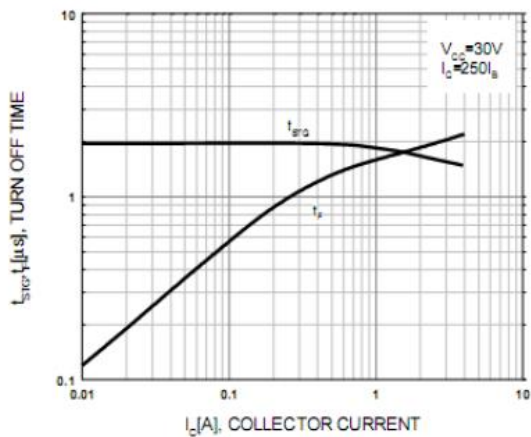


Figure 5. Turn Off Time

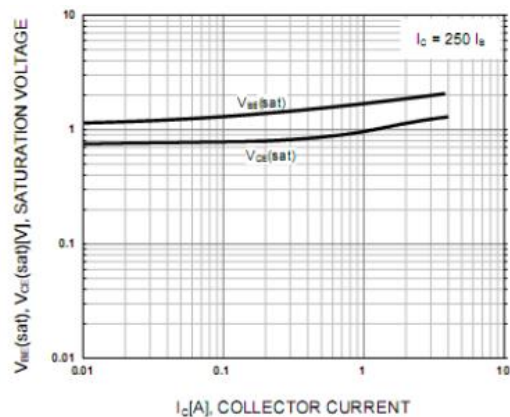


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

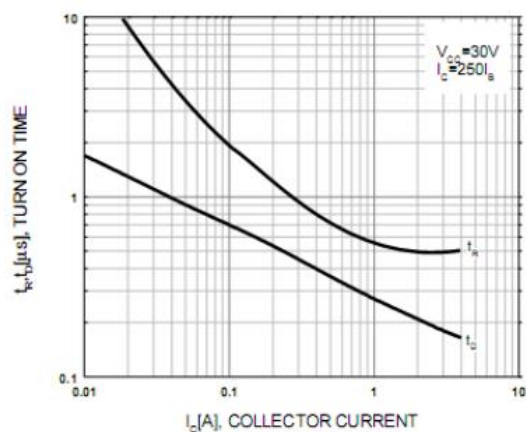


Figure 4. Turn On Time

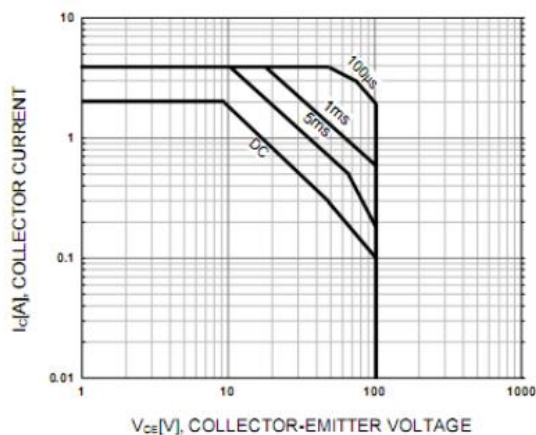


Figure 6. Safe Operating Area

■Dimension 外形封装尺寸

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.20	6.70	0.244	0.264
D1	5.10	5.50	0.201	0.217
E	5.50	6.00	0.217	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.70	10.40	0.382	0.409
L1	1.40	1.70	0.055	0.063
L2	0.60	1.20	0.024	0.047