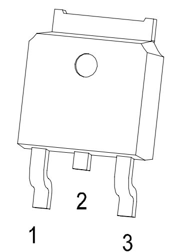
MJD122

TO-252-2L Transistor

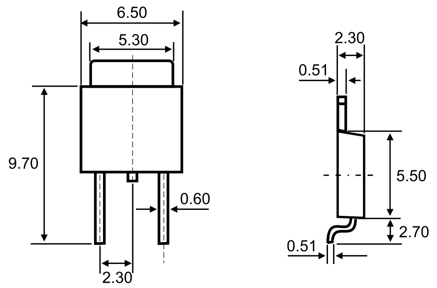


1. BASE

2. COLLECTOR

3 .EMITTER

TO-252-2L



Dimensions in inches and (millimeters)

Features

- ✧ **High DC current gain**
- ✧ **Electrically similar to popular TIP122**
- ✧ **Built-in a damper diode at E-C**

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	8	A
P_C	Collector Power Dissipation	1.5	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=1mA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=30mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=3mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			10	μA
Collector-emitter cut-off current	I_{CEO}	V_{CE}=50V,I_E=0			10	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			2	mA
DC current gain	$h_{FE(1)}$	V_{CE}=4V,I_C=4A	1000		12000	
	$h_{FE(2)}$	V_{CE}=4V,I_C=8A	100			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=4A,I_B=16mA			2	V
	$V_{CE(sat)2}$	I_C=8A,I_B=80mA			4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=8A,I_B=80mA			4.5	V
Base-emitter voltage	V_{BE}	V_{CE}=4V,I_C=4A			2.8	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=0.1MHz			200	pF

Typical Characteristics

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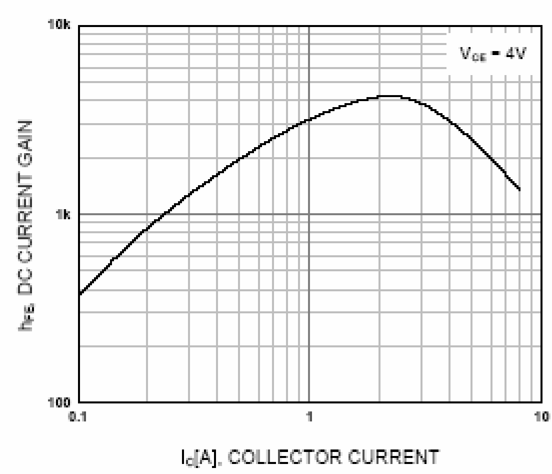


Figure 1. DC current Gain

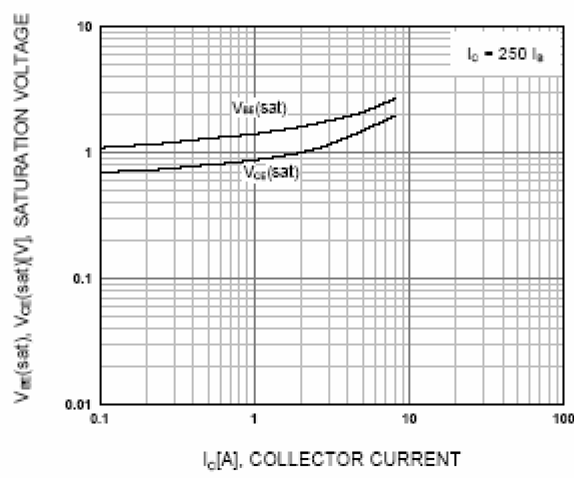


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

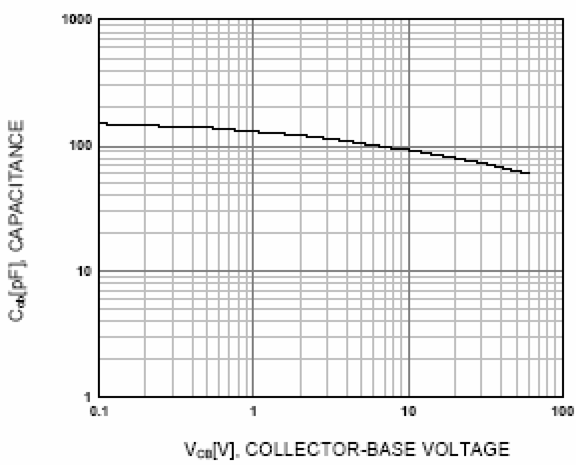


Figure 3. Collector Output Capacitance

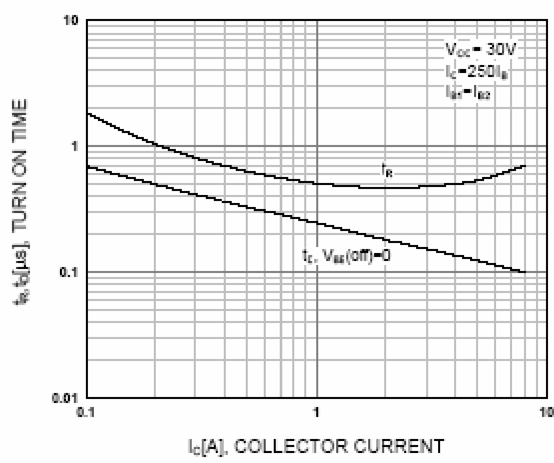


Figure 4. Turn On Time

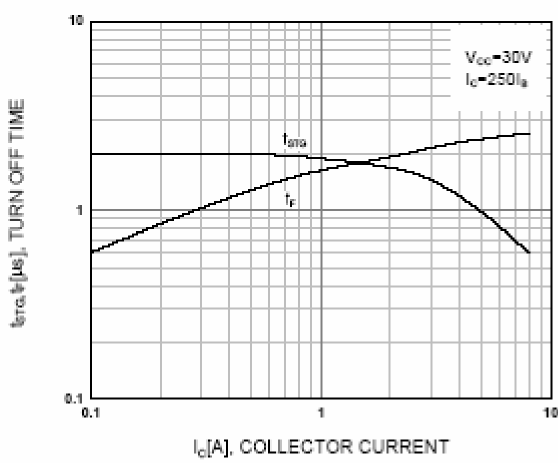


Figure 5. Turn Off Time

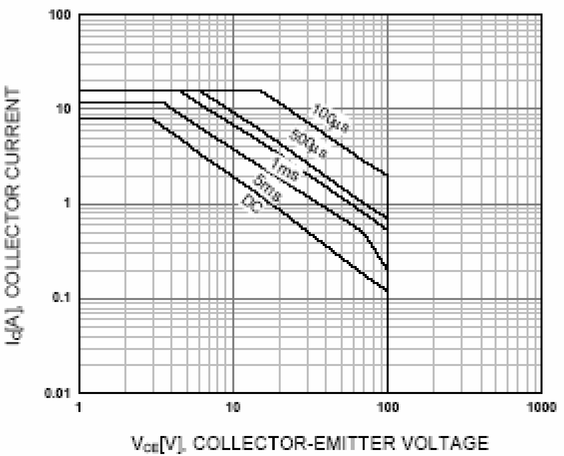
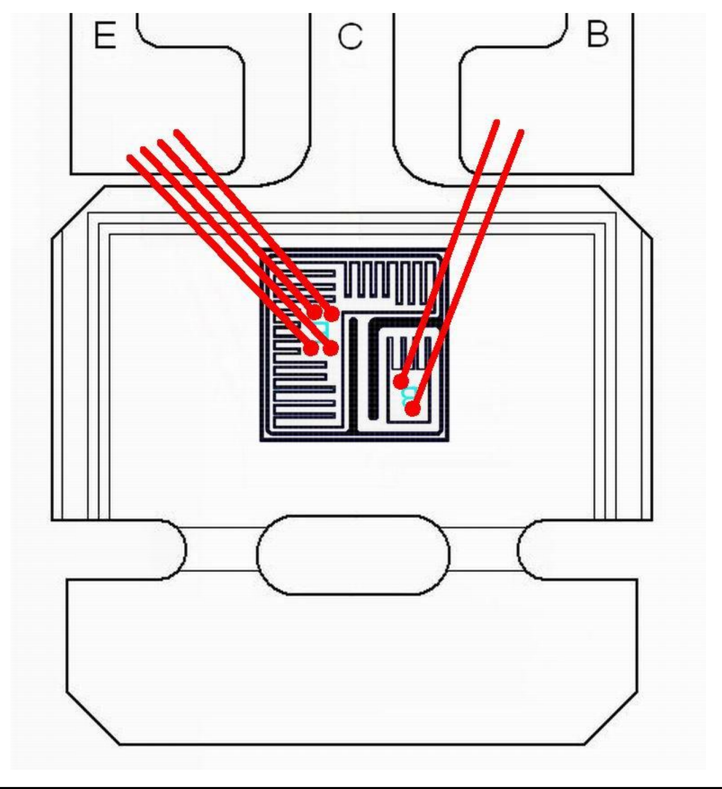
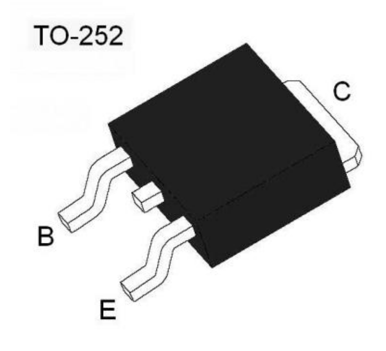


Figure 6. Safe Operating Area

客户	型号	制作日期	制作者	适用日期	
	MJD122/127	2021.05.10			

装配图 Assembly：	封装 Package
 	
	打字 Marking

参考参数 Reference parameter　Tolerance				
粘片 Die bond	温度 Bond Temp	℃	380-420	
	压力 Bond Force	gf	40-60	
	时间 Bond time	ms	40-60	
判定标准	1、四面都能看到溢出；2、芯片剪切去掉后，残留硅的面积要达到 80％以上。			
焊线 Wire bond	温度 Bond Temp	℃	200-260	
			一焊　1st bond	二焊　2nd bond
	功率 Us power	mW	30-40	60-80
	压力 Bond force	gf	50-60	80-100
	时间 Bond time	ms	10-20	10-20
判定标准	1、拉力大于 8 克；2、去除铝层后无弹坑			

封装 Package		TO-252K	塑封料 EMC	KHG-500			
引线框架 Lead Frame		TO-251K	粘片方式 D/B Mehhod	PbSnAg			
芯片名 Chip Name		MJD122/MJD127	线径 Wire size	B	Cu:38μm×2		
芯片尺寸 Chip Size		1.8×1.8mm²		E	Cu：38μm×4		
单位 Unit	—	标题 Title MJD122/127	设计 Drawn	审核 Checked	审核 Checked	批准 Appoved	
比例 Scale	—						
公差 Tolerance	—						