

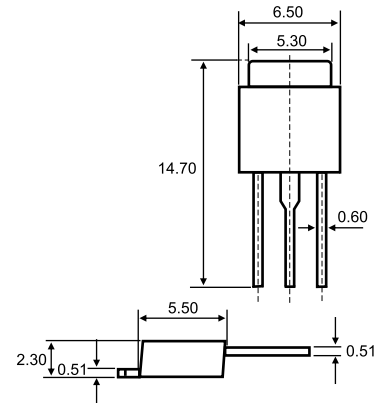
# MJD127(PNP)

## TO-251/TO-252-2L Transistor

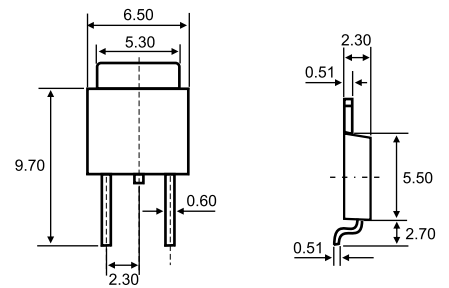


1. BASE
2. COLLECTOR
3. EMITTER

### TO-251



### TO-252-2L



Dimensions in inches and (millimeters)

## Features

- ◇ High DC current gain
- ◇ Electrically similar to popular TIP127
- ◇ Built-in a damper diode at E-C

### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	-100	V
$V_{CE0}$	Collector-Emitter Voltage	-100	V
$V_{EB0}$	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	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-30\text{mA}, I_B=0$	-100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-100\text{V}, I_E=0$			-10	$\mu\text{A}$
Collector-emitter cut-off current	$I_{CEX}$	$V_{CE}=-100\text{V}, V_{BE(off)}=-1.5\text{V}$			-10	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-2	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=-4\text{V}, I_C=-4\text{A}$	1000		12000	
	$h_{FE(2)}$	$V_{CE}=-4\text{V}, I_C=-8\text{A}$	100			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C=-4\text{A}, I_B=-16\text{mA}$			-2	V
	$V_{CE(sat)2}^*$	$I_C=-8\text{A}, I_B=-80\text{mA}$			-4	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-8\text{A}, I_B=-80\text{mA}$			-4.5	V
Base-emitter voltage	$V_{BE}^*$	$V_{CE}=-4\text{V}, I_C=-4\text{A}$			-2.8	V
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=0.1\text{MHz}$			300	pF

\*Pulse Test: Pulse Width $\leq 380\mu\text{s}$ , Duty Cycle $\leq 2\%$

## Typical Characteristics

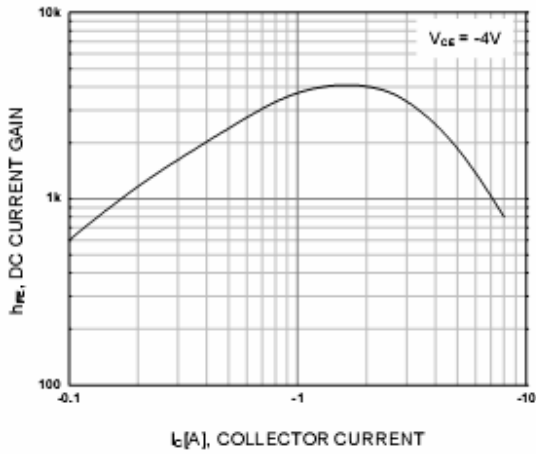


Figure 1. DC current Gain

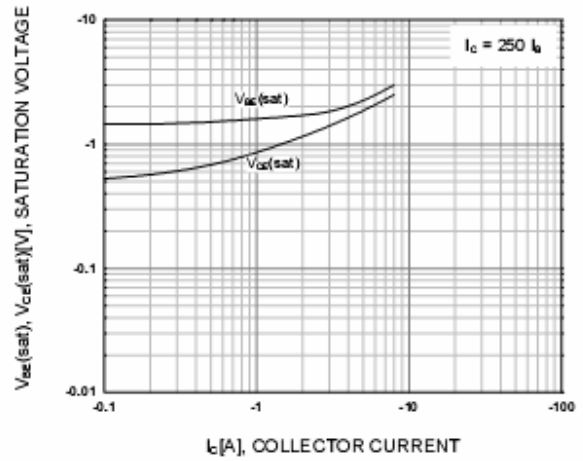


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

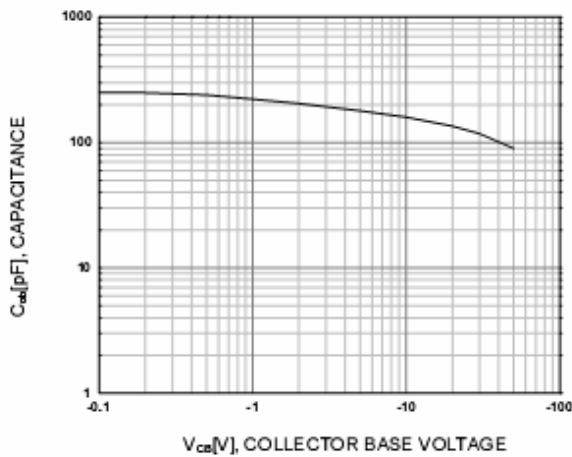


Figure 3. Collector Output Capacitance

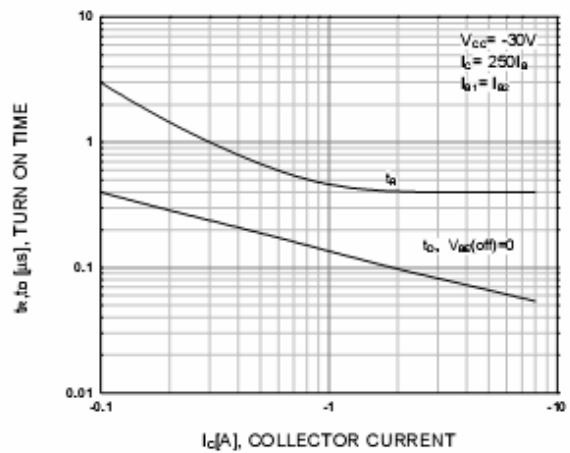


Figure 4. Turn On Time

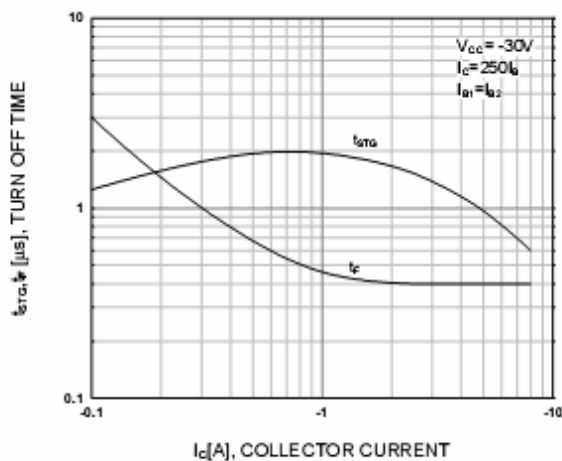


Figure 5. Turn Off Time

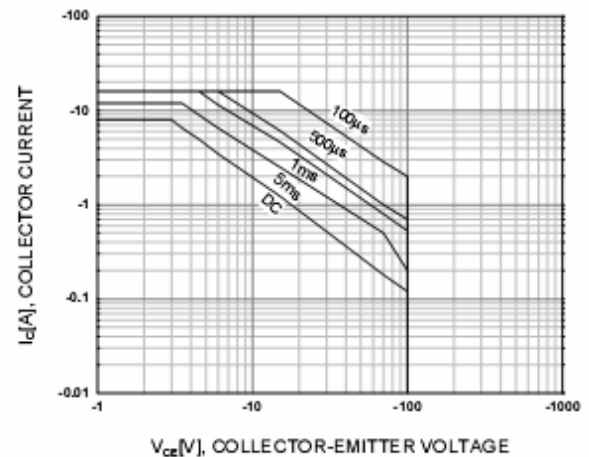


Figure 6. Safe Operating Area

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