



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-251/TO-252-2 Plastic-Encapsulate Transistors**MJD127** TRANSISTOR (PNP)**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_{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	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-251
TO-252-2

1. BASE

2. COLLECTOR

3. EMITTER

**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	μA
Collector-emitter cut-off current	I_{CEX}	$V_{CE}=-100\text{V}, V_{BE(off)}=-1.5\text{V}$			-10	μA
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

MJD127

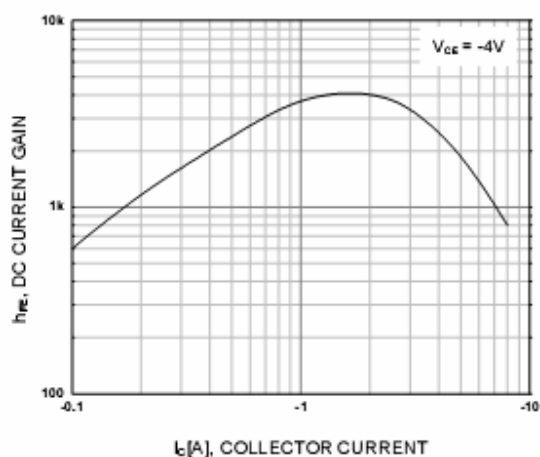


Figure 1. DC current Gain

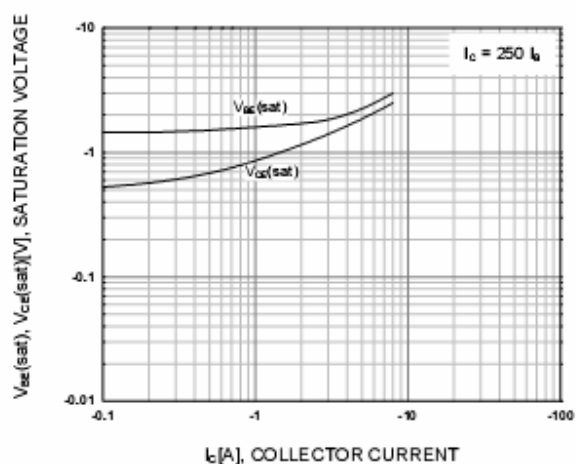


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

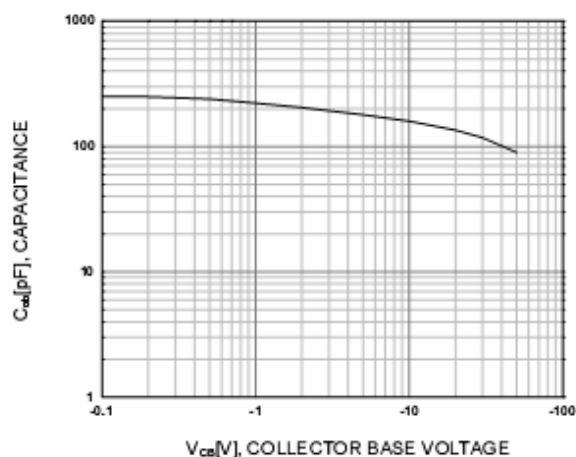


Figure 3. Collector Output Capacitance

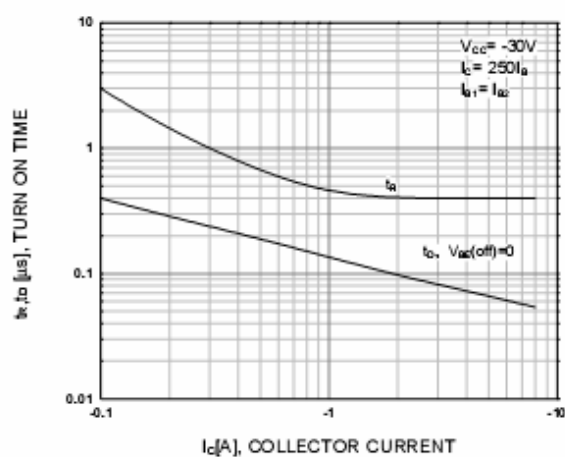


Figure 4. Turn On Time

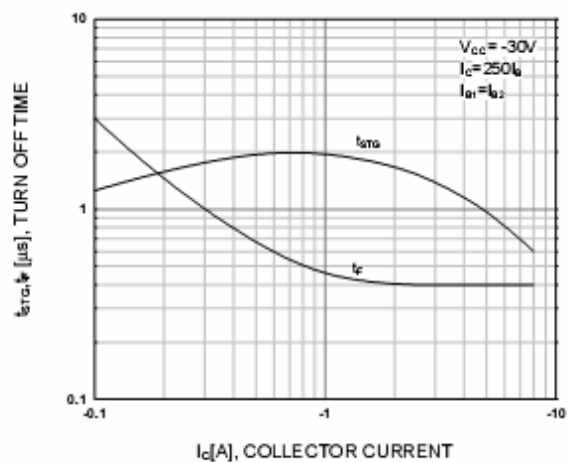


Figure 5. Turn Off Time

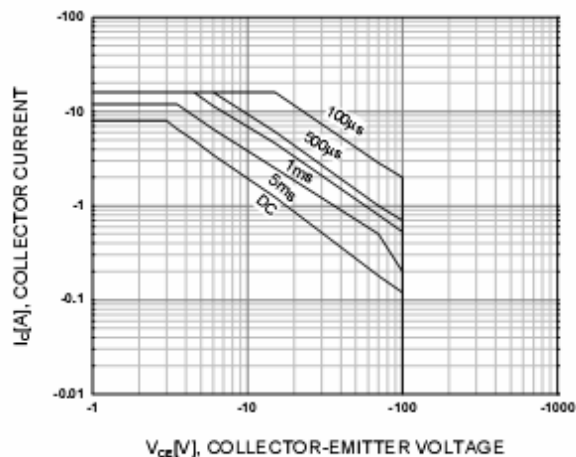


Figure 6. Safe Operating Area