

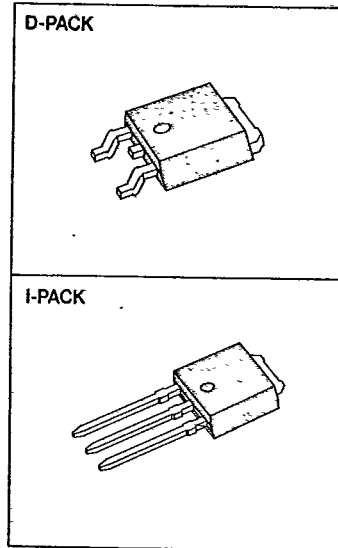
MJD122 NPN SILICON DARLINGTON TRANSISTOR

D-PACK FOR SURFACE MOUNT APPLICATIONS

- High DC Current Gain
- Built-in a Damper Diode at E-C
- Lead Formed for Surface Mount Applications (No Suffix)
- Straight Lead (I-PACK, "-1" Suffix)
- Electrically Similar to Popular TIP122

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

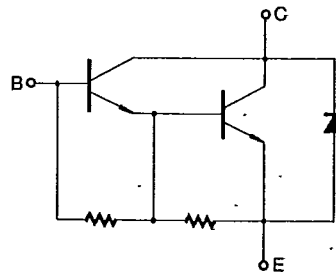
Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	8	A
Collector Current (Pulse)	I_C	16	A
Base Current	I_B	120	A
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_c	20	W
Collector Dissipation ($T_a = 25^\circ\text{C}$)	P_c	1.75	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65~150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Max	Unit
*Collector Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	100		V
Collector Cutoff Current	I_{CEO}	$V_{CE} = 50\text{V}, I_B = 0$		10	μA
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$		10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		2	mA
*DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 4\text{A}$ $V_{CE} = 4\text{V}, I_C = 8\text{A}$	1000 100	12K	
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4\text{A}, I_B = 16\text{mA}$ $I_C = 8\text{A}, I_B = 80\text{mA}$		2 4	V
*Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 8\text{A}, I_B = 80\text{mA}$		4.5	V
*Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 4\text{A}, I_C = 4\text{A}$		2.8	V
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}, I_E = 0$ $f = 0.1\text{MHz}$		200	pF

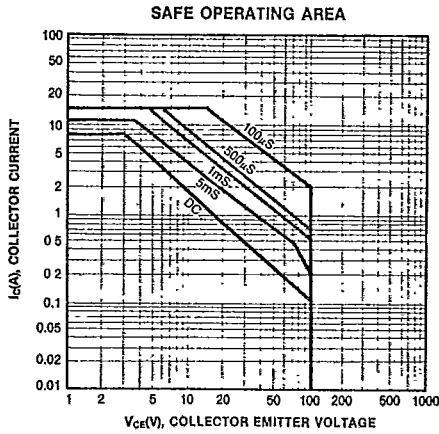
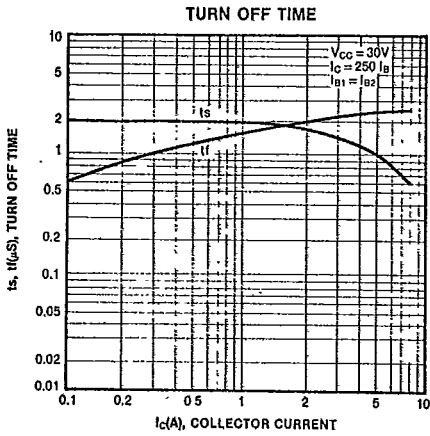
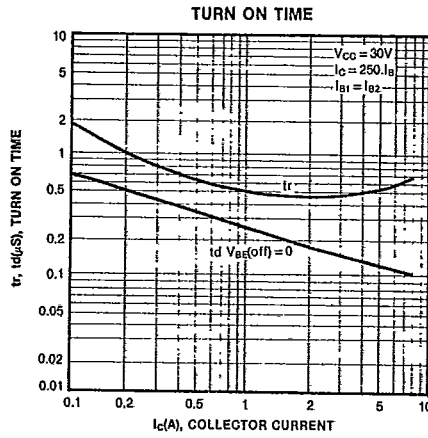
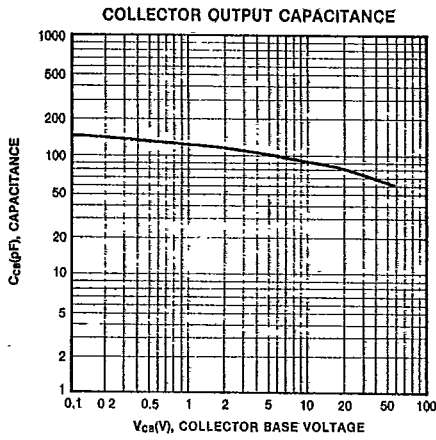
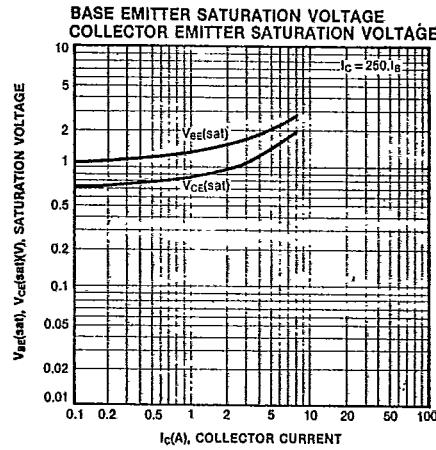
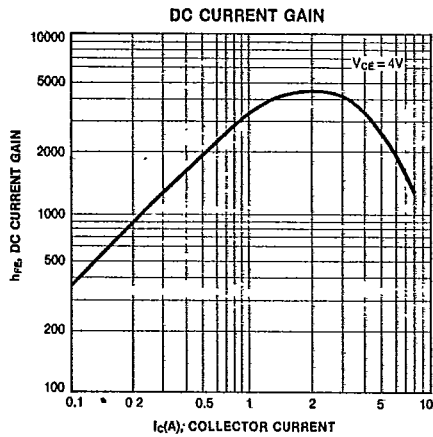
* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$



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