

**isc Silicon NPN Darlington Power Transistor**
**MJD122**
**DESCRIPTION**

- High DC current gain
- Built-in a damper diode at E-C
- Monolithic Construction With Built-in Base-Emitter Shunt Resistors
- Complementary Pairs Simplifies Designs
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

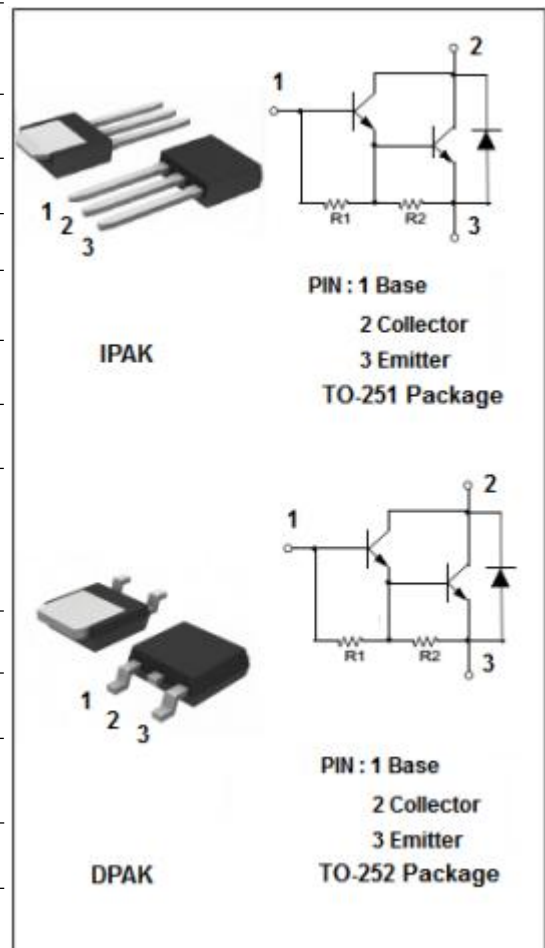
- Designed for general purpose amplifier and low speed switching applications.

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	5	A
I <sub>Cm</sub>	Collector Current-Peak	8	A
I <sub>B</sub>	Base Current-Continuous	120	mA
P <sub>C</sub>	Collector Power Dissipation T <sub>a</sub> =25°C	20	W
	Collector Power Dissipation T <sub>C</sub> =25°C	0.16	
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	6.25	°C/W



## isc Silicon NPN Darlington Power Transistor

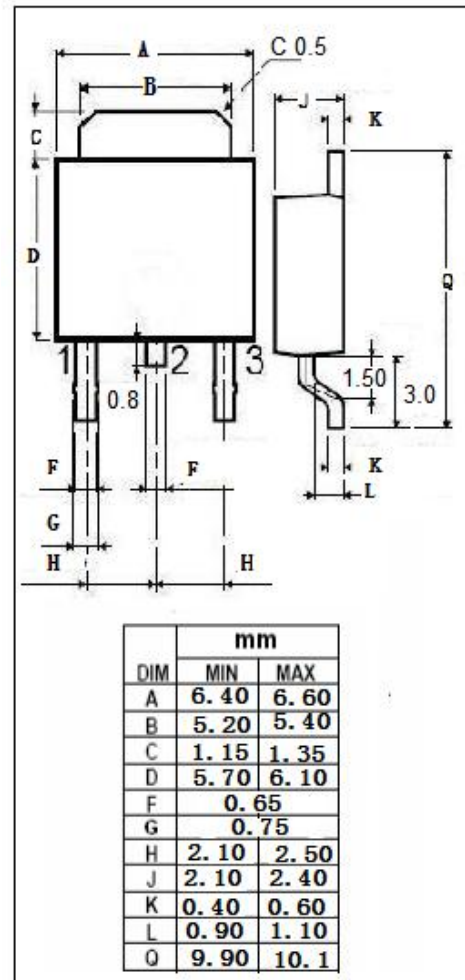
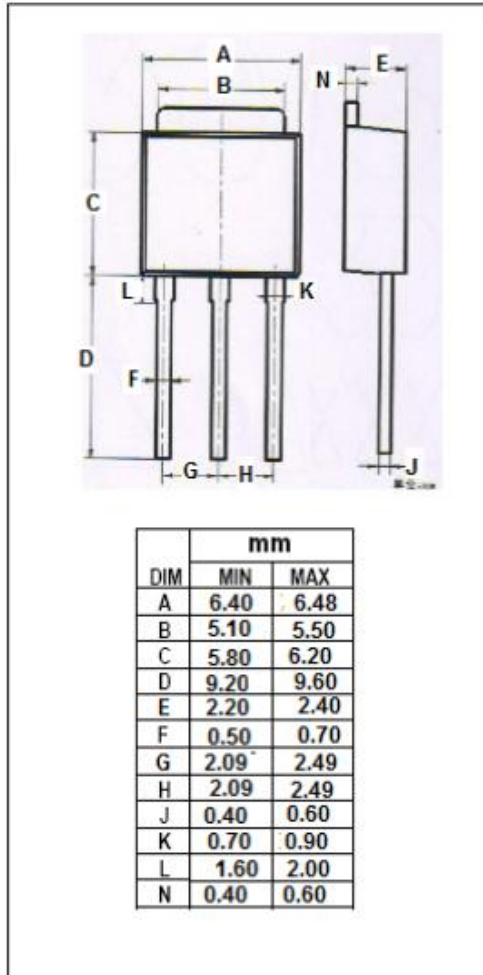
## MJD122

## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(sus)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	100		V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 50V; I <sub>C</sub> = 0		10	μA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> =100V; I <sub>E</sub> = 0		10	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0		2	mA
h <sub>FE-1*</sub>	DC Current Gain	I <sub>C</sub> = 4A; V <sub>CE</sub> =4V	1000	12000	
h <sub>FE-2*</sub>	DC Current Gain	I <sub>C</sub> = 8A; V <sub>CE</sub> = 4V	100		
V <sub>CE(sat)-1*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 16mA		2.0	V
*V <sub>CE(sat)-2*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 80mA		4.0	V
*V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 80mA		4.5	V
V <sub>BE(on)*</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 4A; V <sub>CE</sub> = 4V		2.8	V

\*:Pulse test PW≤300us,duty cycle≤2%

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**Outline Drawing**

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