

**isc Silicon NPN Darlington Power Transistor**
**MJ14002**
**DESCRIPTION**

- With TO-3 packaging
- Very high DC current gain
- Monolithic darlington transistor with integrated antiparallel collector-emitter diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

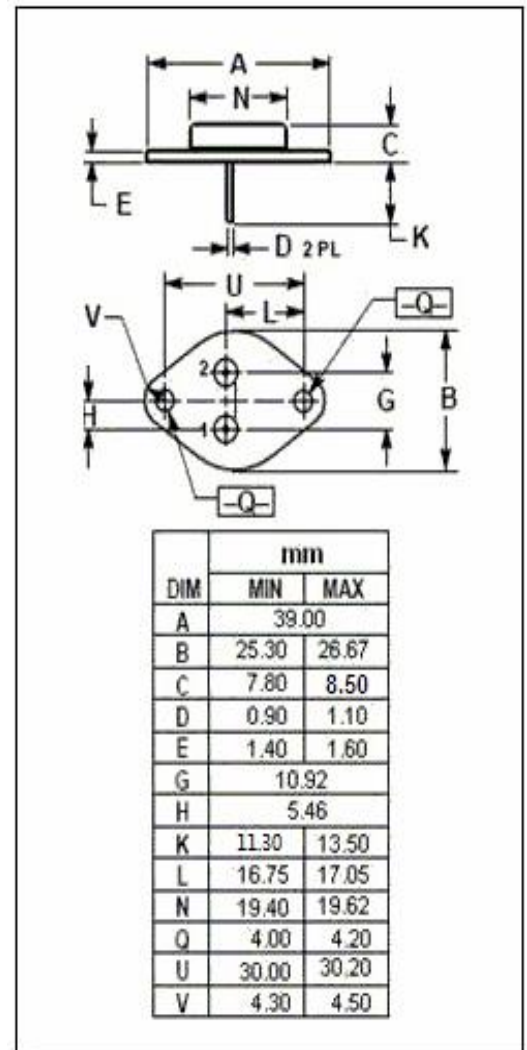
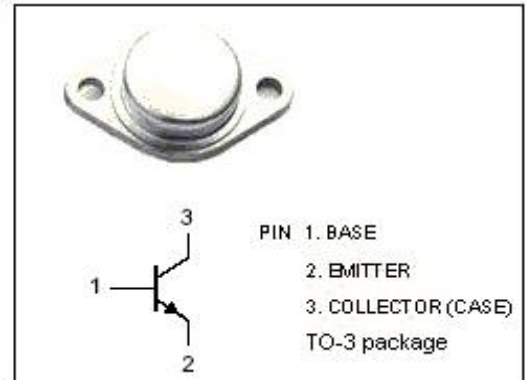
- Electronic ignition
- Alternator regulator
- Motor controls

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

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CB0</sub>	Collector-Base Voltage	80	V
V <sub>CEO</sub>	Collector-Emitter Voltage	80	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	60	A
I <sub>B</sub>	Base Current- Continuous	15	A
P <sub>D</sub>	Collector Power Dissipation	300	W
T <sub>j</sub>	Max.Junction Temperature	200	°C
T <sub>stg</sub>	Storage Temperature Range	-65~200	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance,Junction to Case	0.58	°C/W



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**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> = 250mA, I <sub>B</sub> = 0	80		V
V <sub>CE(sat)1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 25A ,I <sub>B</sub> = 2.5A		1.0	V
V <sub>CE(sat)2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 50A ,I <sub>B</sub> = 5.0A		2.5	V
V <sub>CE(sat)3</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 60A ,I <sub>B</sub> = 12A		3.0	V
V <sub>BE(sat)1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 25A ,I <sub>B</sub> = 2.5A		2	V
V <sub>BE(sat)2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 50A ,I <sub>B</sub> = 5.0A		3	V
V <sub>BE(sat)3</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 60A ,I <sub>B</sub> = 12A		4	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> =80V, I <sub>E</sub> = 0		1.0	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 40V, I <sub>B</sub> = 0		1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0		1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 25A ; V <sub>CE</sub> =3V	30		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 50A ; V <sub>CE</sub> =3V	15	100	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 60A ; V <sub>CE</sub> =3V	5		

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