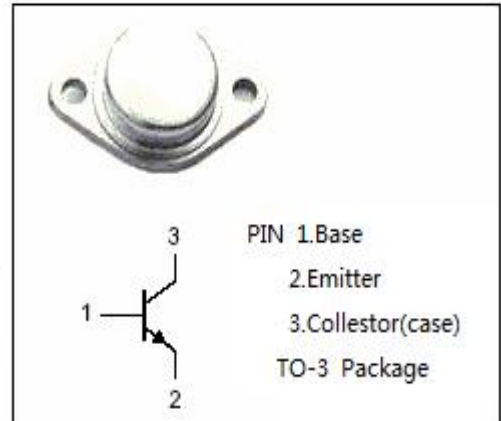


**isc Silicon NPN Power Transistor**
**BUS13**
**DESCRIPTION**

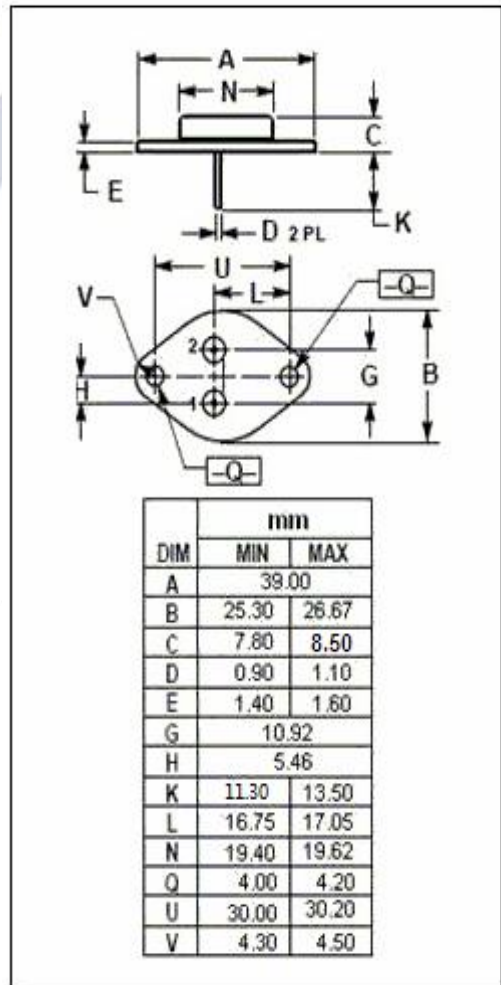
- High Switching Speed
- High Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Converters
- Inverters
- Switching regulators
- Motor controls


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

SYMBOL	PARAMETER	MAX	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	850	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	9	V
I <sub>C</sub>	Collector Current-Continuous	15	A
I <sub>CM</sub>	Collector Current-Peak	30	A
I <sub>B</sub>	Base Current	6	A
I <sub>BM</sub>	Base Current-Peak	9	A
P <sub>C</sub>	Collector Power Dissipation @T <sub>c</sub> =25°C	175	W
T <sub>j</sub>	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	1.0	°C/W

**isc Silicon NPN Power Transistor****BUS13****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> =50mA ; I <sub>B</sub> = 0	400			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1.6A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 1.6A			1.6	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> =V <sub>CESMmax</sub> ; V <sub>BE</sub> = 0 V <sub>CE</sub> = V <sub>CESMmax</sub> ; V <sub>BE</sub> = 0; T <sub>C</sub> = 125°C			1 4	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 9V; I <sub>C</sub> = 0			10	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 5V	15		50	

**Switching Times**

t <sub>on</sub>	Turn-on Time				1.0	μs
t <sub>s</sub>	Storage Time	I <sub>C</sub> = 8A; I <sub>B1</sub> = -I <sub>B2</sub> = 1.6A			4.0	μs
t <sub>f</sub>	Fall Time				0.8	μs

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