

# isc Silicon NPN Power Transistor

**MJ12002**

## DESCRIPTION

- High Switching Speed
- Wide Area of Safe Operation
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

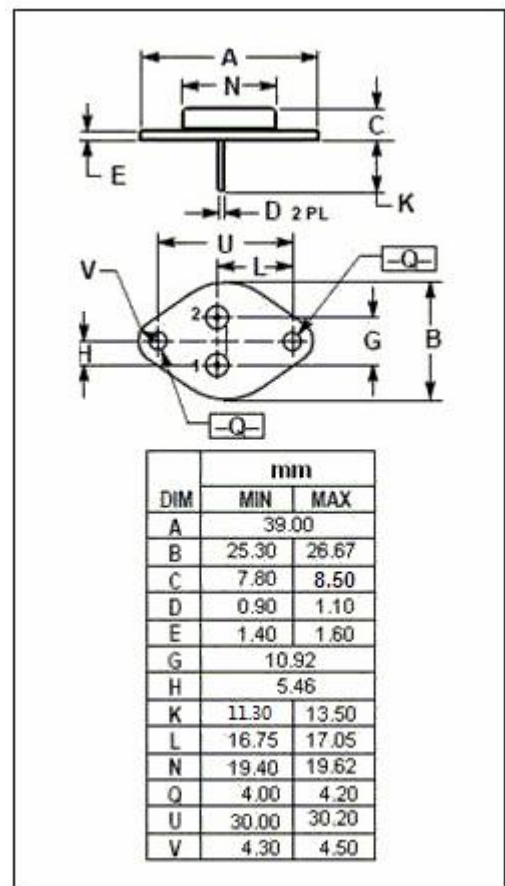
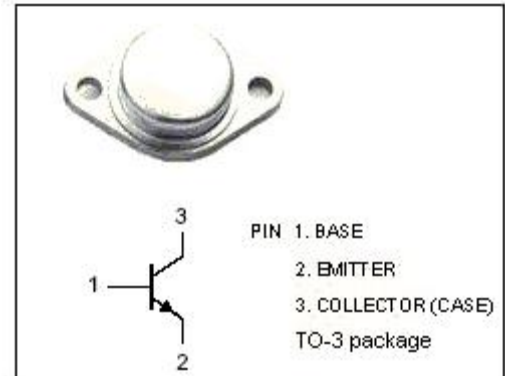
- Designed for use in large screen color deflection circuits.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector- Base Voltage	1500	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	750	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_E$	Emitter Current-Continuous	7	A
$P_C$	Collector Power Dissipation@ $T_C=25^{\circ}\text{C}$	100	W
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-65~150	$^{\circ}\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	1.25	$^{\circ}\text{C/W}$



**isc Silicon NPN Power Transistor****MJ12002****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> =10mA ; I <sub>B</sub> =0	750			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 1.8A			5.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 1.8A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1500V; I <sub>E</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</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V		10.5		
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 5V; f <sub>test</sub> =1.0MHz		4		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> =0.1MHz		50		pF
t <sub>f</sub>	Fall Time	I <sub>C</sub> = 3A , I <sub>B1</sub> = 1.2A; L <sub>B</sub> = 8 μ H		0.5	1.0	μ s

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