

## isc Silicon NPN Power Transistor

## MJF15030

## DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 150V(\text{Min})$
- High DC current gain -  
:  $h_{FE} = 40 (\text{Min}) @ I_C = 3.0 \text{ A}$   
:  $h_{FE} = 20 (\text{Min}) @ I_C = 4.0 \text{ A}$
- Complement to Type MJF15031
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

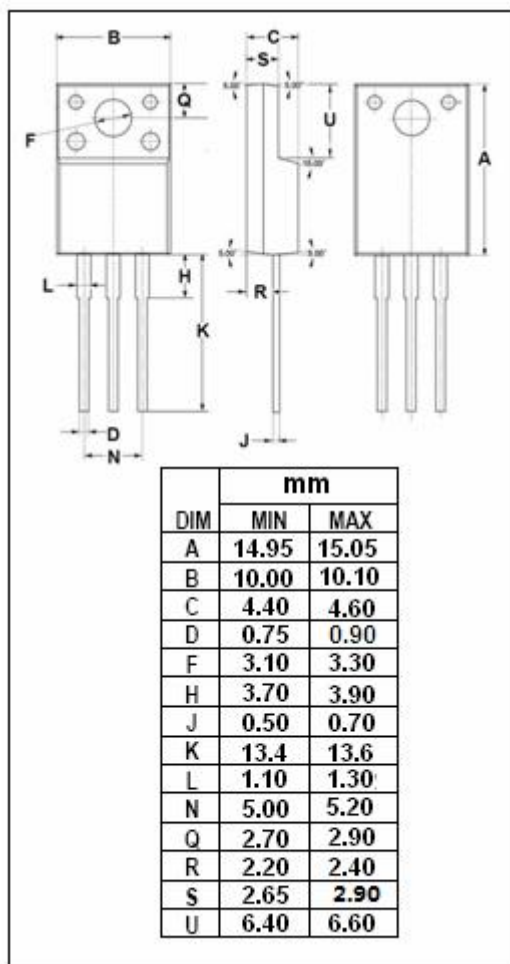
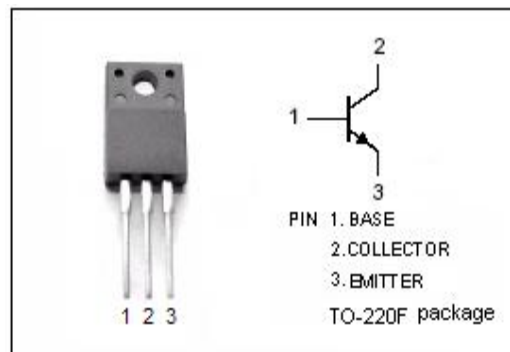
- Designed for general-purpose amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current -Continuous	8	A
$I_{CM}$	Collector Current-Peak	16	A
$I_B$	Base Current	2	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	36	
$T_j$	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	3.5	$^\circ\text{C/W}$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 10mA ; I <sub>B</sub> = 0	150		V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1A ; I <sub>B</sub> = 0.1A		0.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 2V		1.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 150V; I <sub>E</sub> = 0		10	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 150V; I <sub>B</sub> = 0		0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0		10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.1A ; V <sub>CE</sub> = 2V	40		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 2V	40		
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 3A ; V <sub>CE</sub> = 2V	40		
h <sub>FE-4</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 2V	20		
f <sub>T</sub>	Current Gain-Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V; f <sub>test</sub> = 10MHz	20		MHz

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