

# isc Silicon NPN Power Transistor

# 2N6583

## DESCRIPTION

- Excellent Safe Operating Area
- Collector-Emitter Sustaining Voltage-  
:  $V_{CE(SUS)} = 400V(\text{Min})$
- High Current Capability
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 1.5 V(\text{Max}) @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

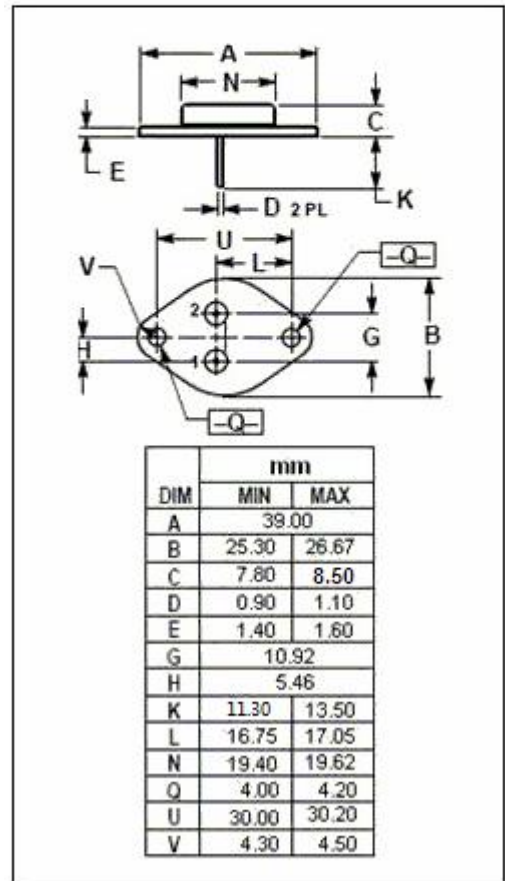
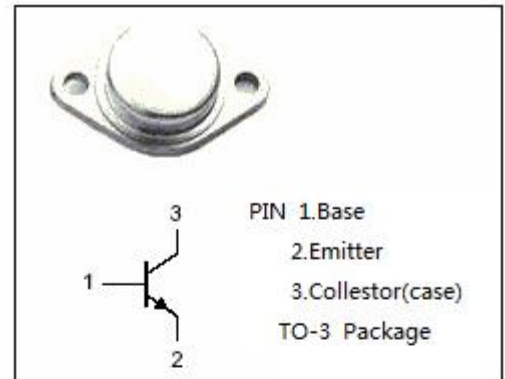
- Designed for linear amplifiers, series pass regulators, and inductive switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	9	V
$I_C$	Collector Current-Continuous	10	A
$P_C$	Collector Power Dissipation@ $T_C=25^\circ\text{C}$	125	W
$T_J$	Junction Temperature	200	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~200	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	1.17	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CE(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> = 10A; I <sub>B</sub> = 1.0A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> = 1.0A			2.0	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 400V; I <sub>B</sub> = 0			1.0	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V ; I <sub>E</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 9V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 3V	7		35	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 10A ; V <sub>CE</sub> = 3V	5			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V		25		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> =1MHz		250		pF

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