

## isc Silicon NPN Power Transistor

2SD2029

## DESCRIPTION

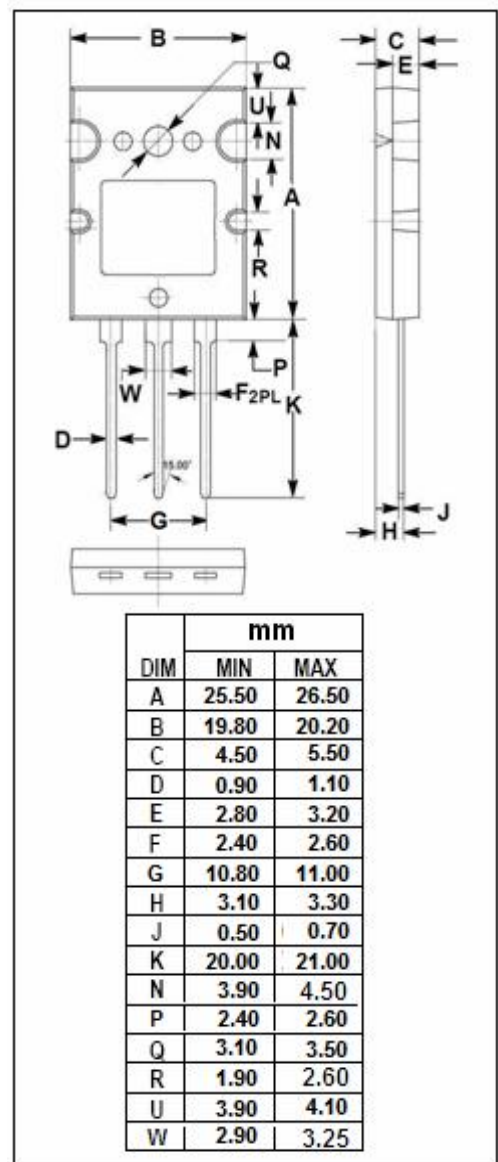
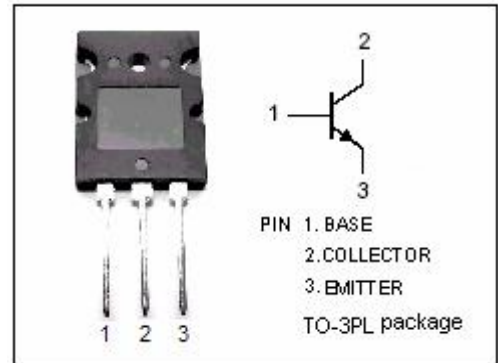
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 160V(\text{Min})$
- Wide Area of Safe Operation
- Complement to Type 2SB1347
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Power amplifier applications
- Optimum for the output stage of a HiFi audio amplifier

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	12	A
$I_{CM}$	Collector Current-Peak	20	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	120	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	3.5	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****2SD2029****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 0.8A			2.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 8A; V <sub>CE</sub> = 5V			1.8	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 160V; I <sub>E</sub> = 0			50	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 3V; I <sub>C</sub> = 0			50	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 20mA; V <sub>CE</sub> = 5V	20			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V	60		200	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 8A; V <sub>CE</sub> = 5V	20			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1.0MHz		210		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V		20		MHz

**◆ h<sub>FE-2</sub> Classifications**

Q	S	P
60-120	80-160	100-200

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