

## isc Silicon NPN Power Transistors

## 2SD1063

## DESCRIPTION

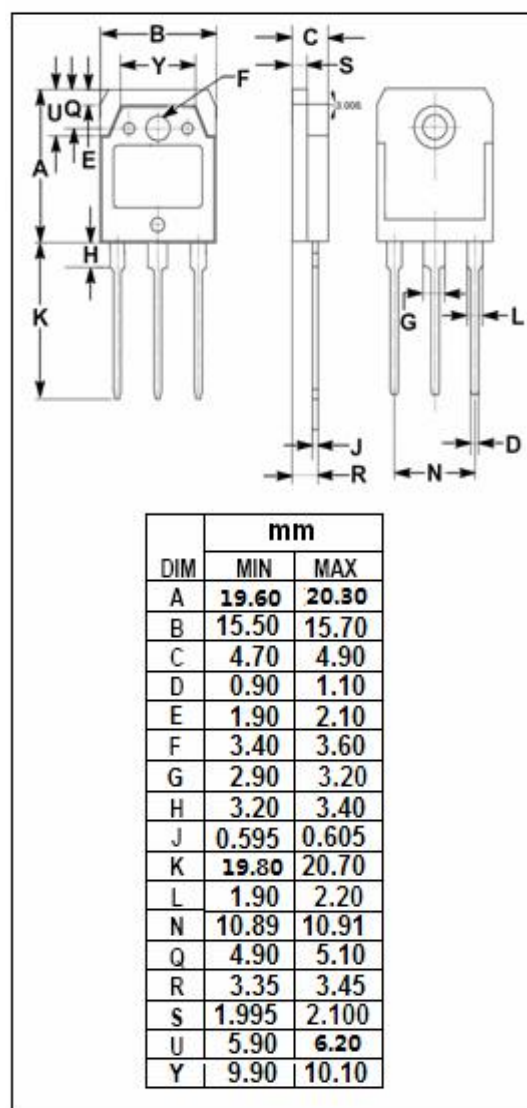
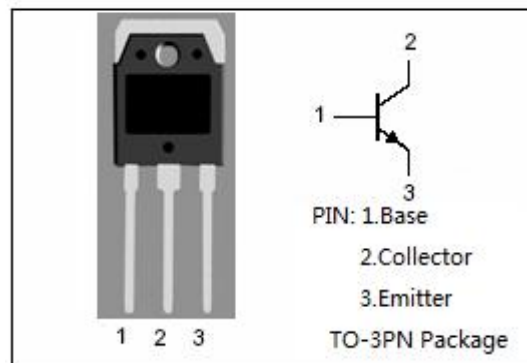
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.4V(\text{Max}) @ I_C = 4A$
- Wide Area of Safe Operation
- Complement to Type 2SB827
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for universal high current switching as solenoid driving, high speed inverter and converter applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	7	A
$I_{CP}$	Collector Current-Pulse	14	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	60	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 1mA ; R <sub>BE</sub> = ∞	50			V
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA ; I <sub>E</sub> = 0	60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA ; I <sub>C</sub> = 0	6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			0.4	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 40V; I <sub>E</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 4V; I <sub>C</sub> =0			100	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V	70		280	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 5A; V <sub>CE</sub> = 2V	30			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V		10		MHz

## Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 2A; I <sub>B1</sub> = I <sub>B2</sub> = 0.2A R <sub>L</sub> = 10 Ω ; P <sub>W</sub> =20 μ s; V <sub>CC</sub> = 20V		0.2		μ s
t <sub>stg</sub>	Storage Time			0.9		μ s
t <sub>f</sub>	Fall Time			0.3		μ s

◆ h<sub>FE-1</sub> Classifications

Q	R	S
70-140	100-200	140-280

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