

**isc Silicon NPN Power Transistor**
**2SD1168**
**DESCRIPTION**

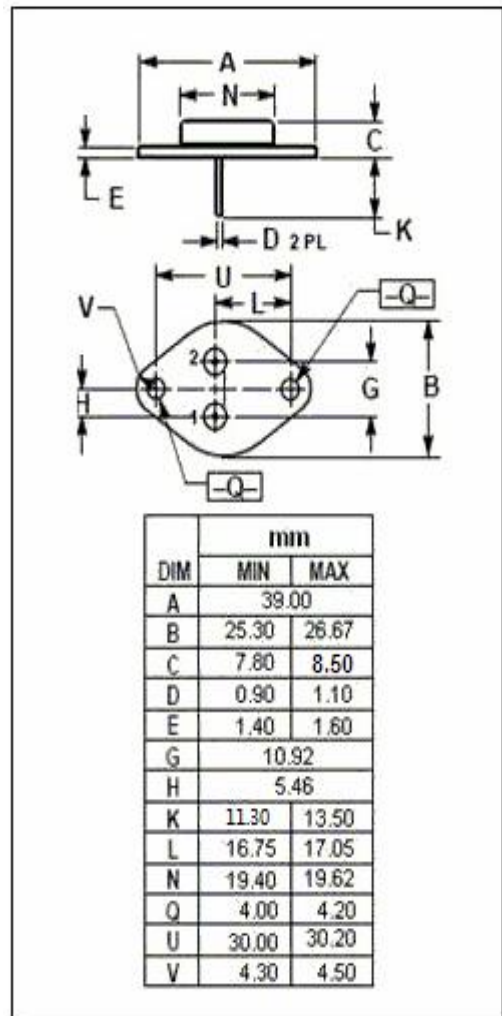
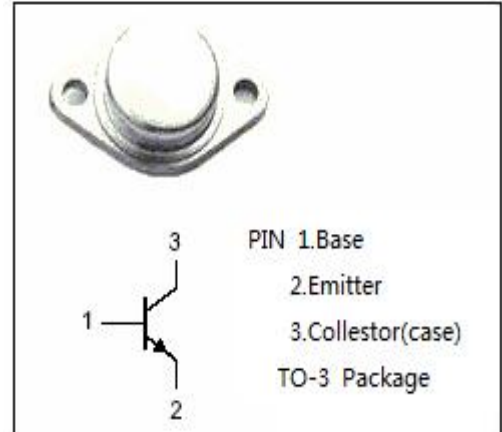
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for switching regulator applications.

**ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CER}$	Collector-Emitter Voltage	800	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current- Continuous	5	A
$I_{CP}$	Collector Current-Pulse	10	A
$P_C$	Collector Power Dissipation @ $T_C T_C = 25^\circ C$	50	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ C$



## isc Silicon NPN Power Transistor

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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)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA; I <sub>C</sub> = 0	5			V
V <sub>CER(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; R <sub>BE</sub> = 10 Ω ; L= 2mH	800			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 1A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A; I <sub>B</sub> = 1A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 750V; I <sub>E</sub> = 0			50	μ A
		V <sub>CB</sub> = 1500V; I <sub>E</sub> = 0			1	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 4V	9		25	
t <sub>f</sub>	Fall Time	I <sub>C</sub> = 1.5A , I <sub>B1</sub> = 0.2A, I <sub>B2</sub> = 0.7A			0.5	μ s
t <sub>stg</sub>	Storage Time			2.0		μ s

◆ h<sub>FE</sub> classifications

Q	P
9-18	15-25

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