

# isc Silicon NPN Power Transistor

## 2SC1875

### DESCRIPTION

- Collector-Emitter Sustaining Voltage-  
 $V_{CEO(SUS)} = 500V(\text{Min})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

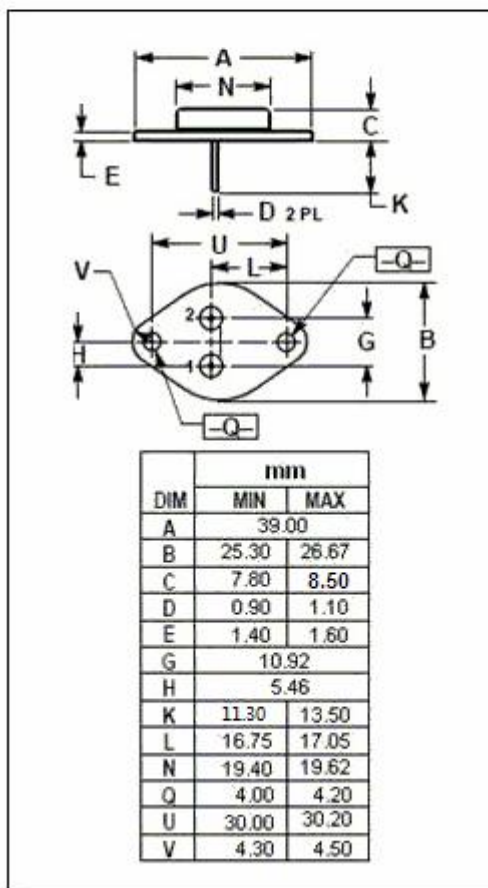
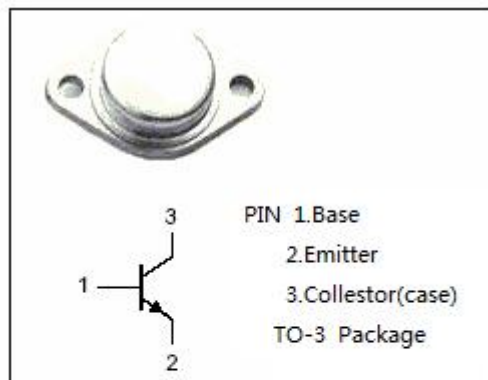
- Automotive ignition
- Switching regulator
- Motor control applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CEO}$	Collector-Emitter Voltage	500	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	3.5	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	W
$T_j$	Junction Temperature	-65~150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{thj-c}$	Thermal Rresistance,Junction to Case	2.5	$^\circ\text{C/W}$



**isc Silicon NPN Power Transistor****2SC1875****ELECTRICAL CHARACTERISTICS****T<sub>j</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA ; I <sub>B</sub> = 0	500			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.6A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.6A			1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1000V, I <sub>E</sub> = 0			20	uA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 500V, I <sub>B</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			20	uA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> =0.5A; V <sub>CE</sub> = 10V	10		35	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> =2A; V <sub>CE</sub> = 10V	5		25	

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