

**isc Silicon NPN Power Transistor**
**2SC3874**
**DESCRIPTION**

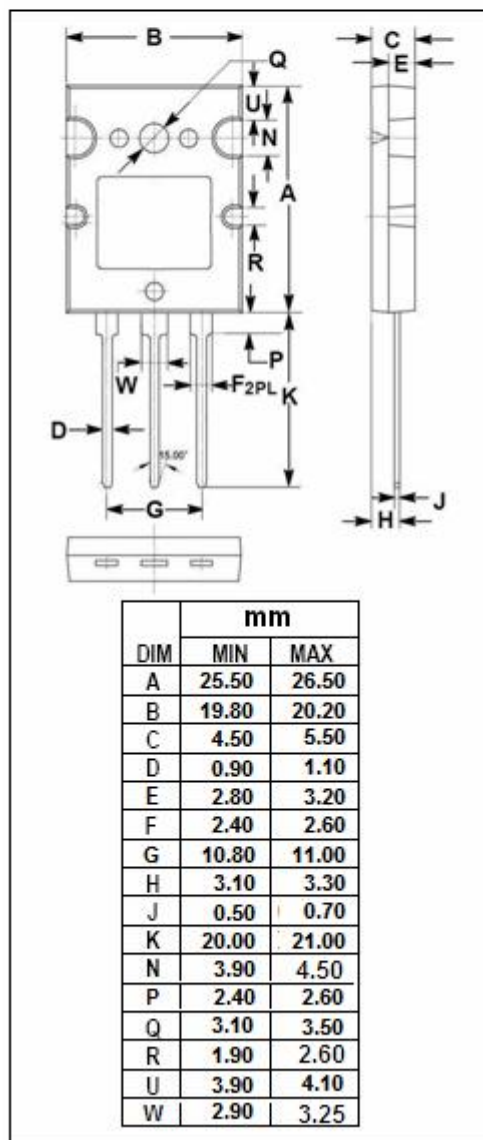
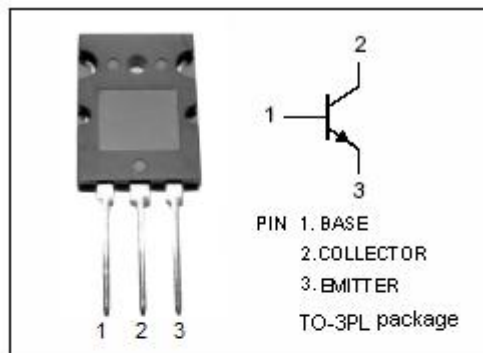
- Silicon NPN triple diffusion planar type
- High Switching Speed
- Wide area of safe operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high voltage high-speed switching

**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	7	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Pulse	25	A
$P_C$	Collector Power Dissipation @ $T_C=25^{\circ}\text{C}$	150	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>CE(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 25mA; I <sub>B</sub> = 0	500			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> =2A			1.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A; I <sub>B</sub> =2A			1.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 500V; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			10	uA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 5V	15			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 10A; V <sub>CE</sub> = 5V	8			
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 10A, I <sub>B1</sub> =2A; I <sub>B2</sub> = -4A			2	μ s
t <sub>f</sub>	Fall Time				0.3	μ s

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