

# isc Silicon NPN Power Transistor

## 2SC3738

### DESCRIPTION

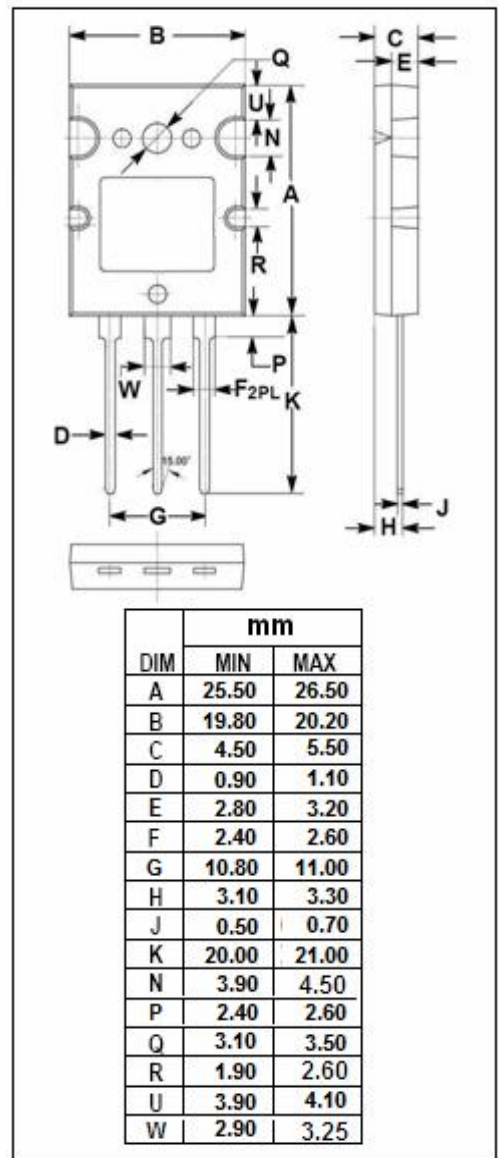
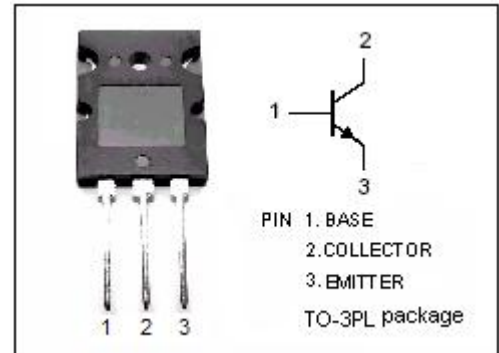
- High Voltage, High Speed Switching
- Wide Area of Safe Operation
- Good Linearity of  $h_{FE}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed for high speed switching and horizontal deflection output applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1200	V
$V_{CEO}$	Collector-Emitter Voltage	800	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	10	A
$I_{CP}$	Collector Current-Peak	15	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	175	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****2SC3738****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> = 10mA ; I <sub>B</sub> = 0	800			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.8A			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.8A			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1000V; I <sub>E</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> = 0			100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 4A; V <sub>CE</sub> = 5V	6		20	

**Switching Times**

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 4A, I <sub>B1</sub> = 0.8A; I <sub>B2</sub> = -1.6A, V <sub>CC</sub> = 250V			1.0	μ s
t <sub>stg</sub>	Storage Time				3.5	μ s
t <sub>f</sub>	Fall Time				0.3	μ s

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