

**isc Silicon NPN Power Transistor**
**2SC2613**
**DESCRIPTION**

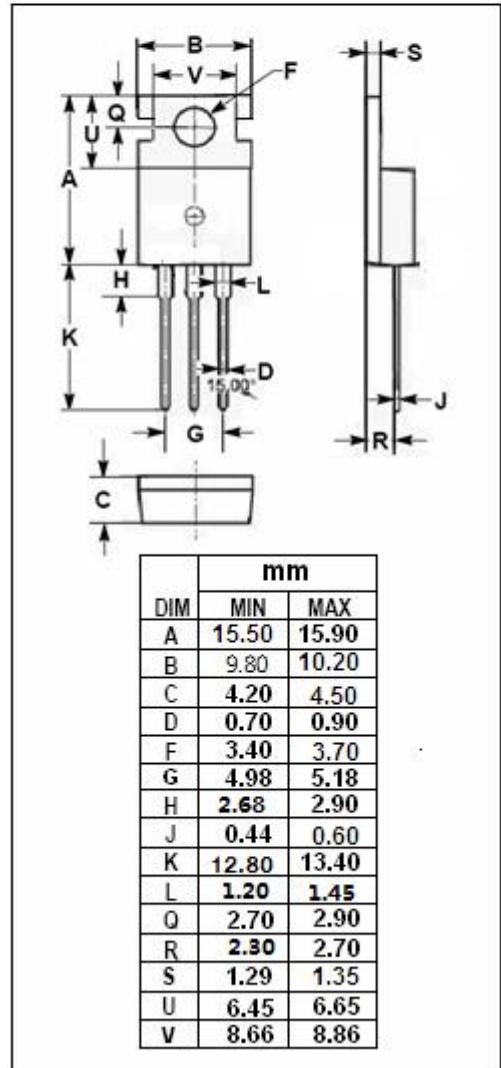
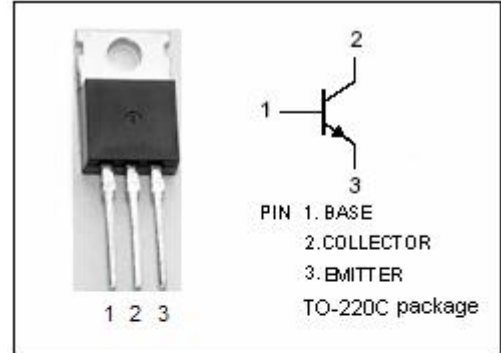
- High Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 400V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high voltage, high speed and high power switching applications.

**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	5	A
$I_{CM}$	Collector Current-Peak	10	A
$I_B$	Base Current-Continuous	2.5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	400			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\text{mA}; I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=0.5\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=400\text{V}; I_E=0$			100	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=350\text{V}; I_B=0$			100	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=2.5\text{A}; V_{CE}=5\text{V}$	15			
$h_{FE-2}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	7			

## Switching Times

$t_{on}$	Turn-on Time	$I_C=5\text{A}, I_{B1}=-I_{B2}=1\text{A}, V_{CC}\approx 150\text{V}$			1.0	$\mu\text{s}$
$t_{stg}$	Storage Time				2.5	$\mu\text{s}$
$t_f$	Fall Time				1.0	$\mu\text{s}$

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