

**isc Silicon NPN Power Transistor**

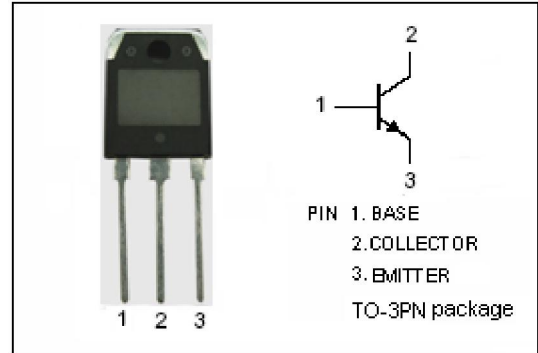
**2SC2750**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 100V(\text{Min})$
- High Current Capability
- High Power Dissipation

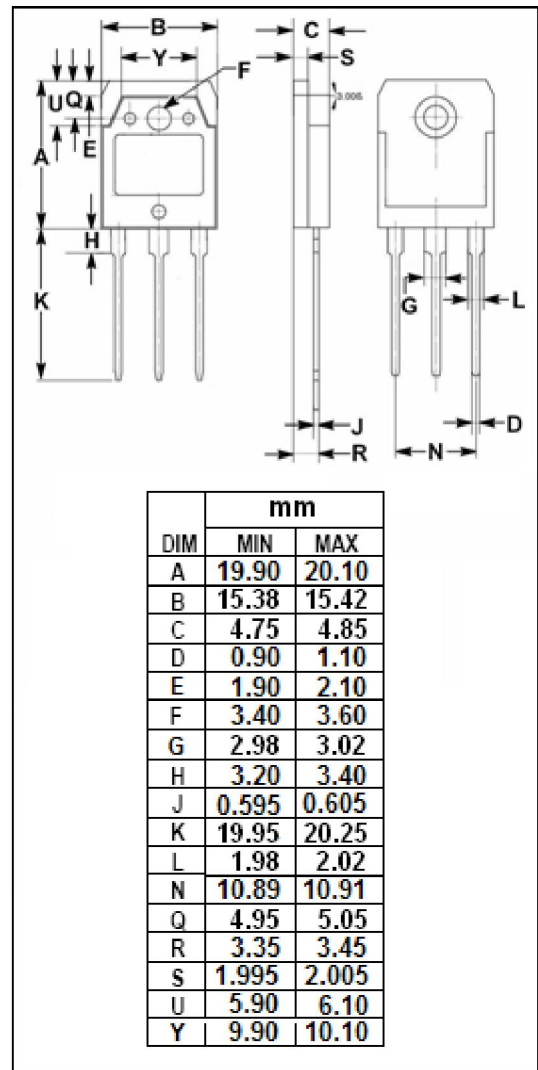
**APPLICATIONS**

- Designed for high speed, high current switching industrial applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	150	V
$V_{CEO}$	Collector-Emitter Voltage	100	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	15	A
$I_{CM}$	Collector Current-Peak	30	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	100	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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## 2SC2750

## 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	$I_C=10\text{A}; I_{B1}=1\text{A}; L=100\ \mu\text{H}$	100			V
$V_{CEX(SUS)1}$	Collector-Emitter Sustaining Voltage	$I_C=10\text{A}; I_{B1}=-I_{B2}=1\text{A}; T_a=125^\circ\text{C}$ $L=180\ \mu\text{H}; \text{Clamped}$	150			V
$V_{CEX(SUS)2}$	Collector-Emitter Sustaining Voltage	$I_C=20\text{A}; I_{B1}=2\text{A}; I_{B2}=1\text{A};$ $T_a=125^\circ\text{C}; L=180\ \mu\text{H}; \text{Clamped}$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=1\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{CER}$	Collector Cutoff Current	$V_{CE}=100\text{V}; R_{BE}=50\ \Omega; T_a=125^\circ\text{C}$			1.0	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V};$ $V_{CE}=100\text{V}; V_{BE(off)}=-1.5\text{V}; T_a=125^\circ\text{C}$			10 500	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	30		120	
$h_{FE-2}$	DC Current Gain	$I_C=10\text{A}; V_{CE}=5\text{V}$	20			

## Switching Times

$t_{on}$	Turn-on Time	$I_C=10\text{A}, I_{B1}=-I_{B2}=1\text{A},$ $V_{CC}\approx 50\text{V}; R_L=5\ \Omega$			1.0	$\mu\text{s}$
$t_{stg}$	Storage Time				1.5	$\mu\text{s}$
$t_f$	Fall Time				0.3	$\mu\text{s}$

◆  $h_{FE-1}$  Classifications

M	L	K
30-60	40-80	60-120