

**isc Silicon NPN Power Transistor**

**2SC2293**

**DESCRIPTION**

- High Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 400V$  (Min)
- High Switching Speed

**APPLICATIONS**

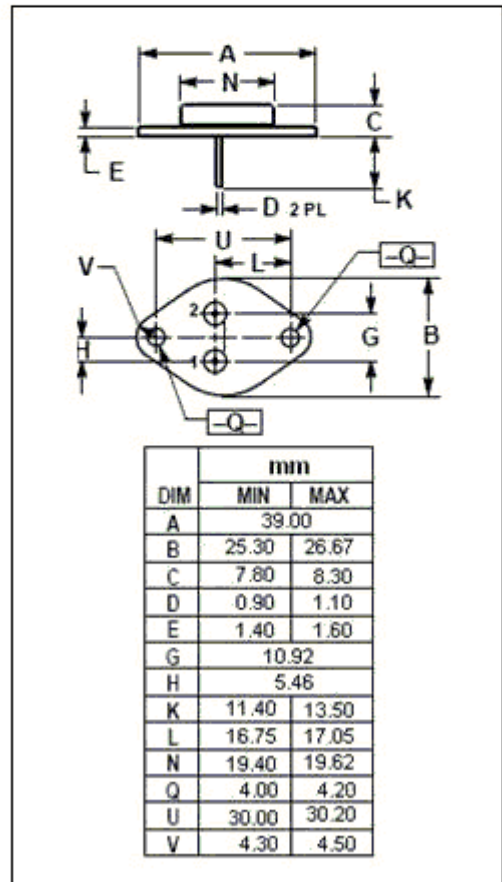
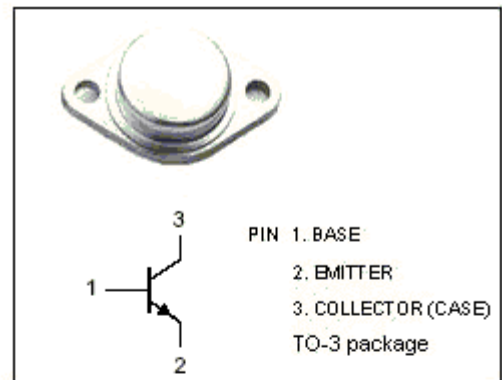
- Power switching
- Power amplification
- Power driver

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

SYMBOL	PARAMETER	MAX	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	10	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current-Continuous	4	A
$I_{BM}$	Base Current-Peak	8	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ C$	100	W
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$



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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	$I_C=200\text{mA}; I_B=0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			0.7	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=0.5\text{A}$			1.5	V
$h_{FE-1}$	DC Current Gain	$I_C=5\text{A}; V_{CE}=2\text{V}$	15			
$h_{FE-2}$	DC Current Gain	$I_C=10\text{A}; V_{CE}=2\text{V}$	8			
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=500\text{V}; I_E=0$			0.1	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=400\text{V}; I_B=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			1.0	mA
$f_T$	Current-Gain—Bandwidth Product	$I_C=1\text{A}; V_{CE}=10\text{V}$		20		MHz

## Switching Times

$t_{on}$	Turn-On Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=1\text{A};$ $R_L=5\Omega; V_{BB2}=4\text{V}$			1.0	$\mu\text{s}$
$t_{stg}$	Storage Time				3.0	$\mu\text{s}$
$t_f$	Fall Time				0.7	$\mu\text{s}$