

isc Silicon NPN Power Transistor

2SC3993

DESCRIPTION

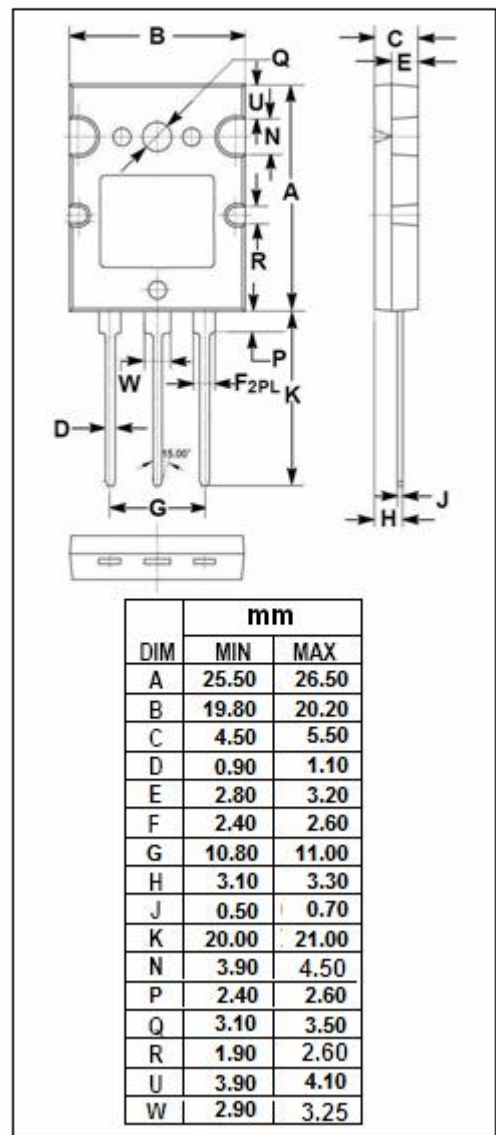
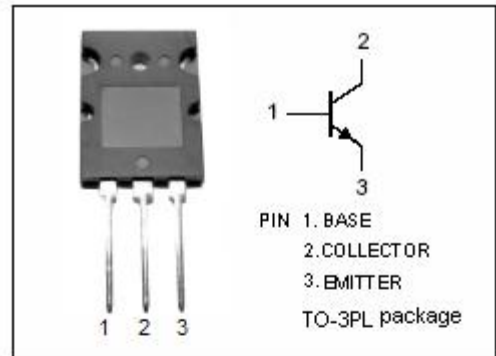
- High Switching Speed
- High Breakdown Voltage-
: $V_{(BR)CBO} = 1100V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- 800V/16A switching regulator applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1100	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	16	A
I_{CM}	Collector Current-Pulse	40	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	250	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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	800			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.2\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=1.2\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=800\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	μA
h_{FE-1}	DC Current Gain	$I_C=1.2\text{A}; V_{CE}=5\text{V}$	10		40	
h_{FE-2}	DC Current Gain	$I_C=6\text{A}; V_{CE}=5\text{V}$	8			
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time	$I_C=10\text{A}; I_{B1}=2\text{A}; I_{B2}=-4\text{A}$			0.3	μs

◆ h_{FE-1} Classifications

K	L	M
10-20	15-30	20-40