

isc Silicon NPN Darlington Power Transistor
2SD693
DESCRIPTION

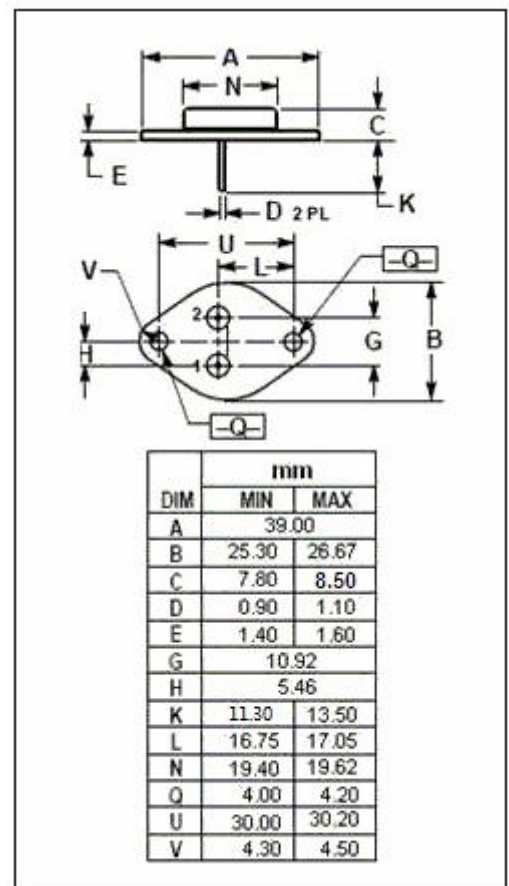
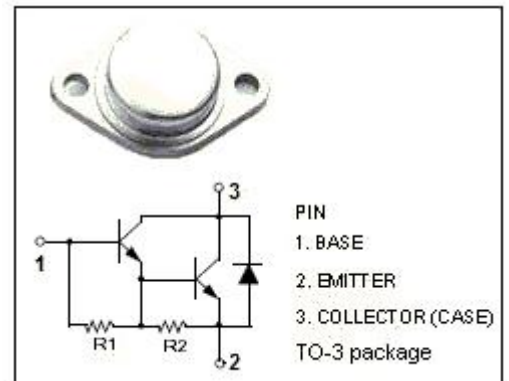
- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 450V(\text{Min})$
- High Power Dissipation
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for line operated switchmode applications such as:
- Switching regulators
- Inverters
- Solenoid and relay drivers

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current	10	A
I_{CM}	Collector Current-peak	15	A
I_B	Base Current	1	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	80	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
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=50\text{mA}; I_B=0$	450			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\text{mA}; I_C=0$	10			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=10\text{mA}$			1.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=40\text{mA}$			2.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=10\text{mA}$			2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=40\text{mA}$			2.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=450\text{V}; I_E=0$			0.1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=450\text{V}; I_B=0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=10\text{V}; I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=5\text{A}; V_{CE}=5\text{V}$	150			

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