

isc Silicon NPN Darlington Power Transistor

TIP160

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 320V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 2.9V(\text{Max.}) @ I_C = 10A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

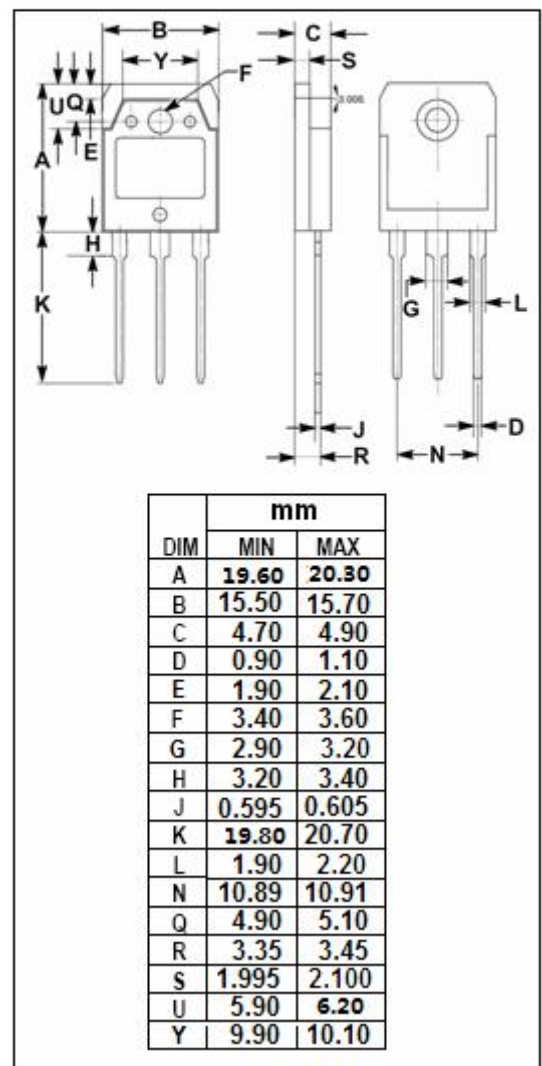
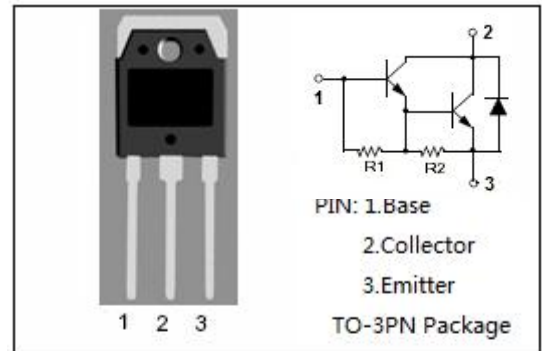
- Designed for use in automotive ignition, switching and motor control applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	320	V
V_{CEO}	Collector-Emitter Voltage	320	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current- Continuous	1.0	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	125	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C/W}$



isc Silicon NPN Darlington Power Transistor**TIP160****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 6.5\text{A}, I_B = 0.1\text{A}$			2.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}, I_B = 1\text{A}$			2.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 6.5\text{A}, I_B = 0.1\text{A}$			2.2	V
I_{CEO}	Collector Cutoff current	$V_{CE} = 320\text{V}, I_B = 0$			1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}, I_C = 0$			10	mA
h_{FE}	DC Current Gain	$I_C = 4\text{A}, V_{CE} = 2.2\text{V}$	200			

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