

isc Silicon NPN Darlington Power Transistor

TIP162

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 380V(\text{Min})$
- 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

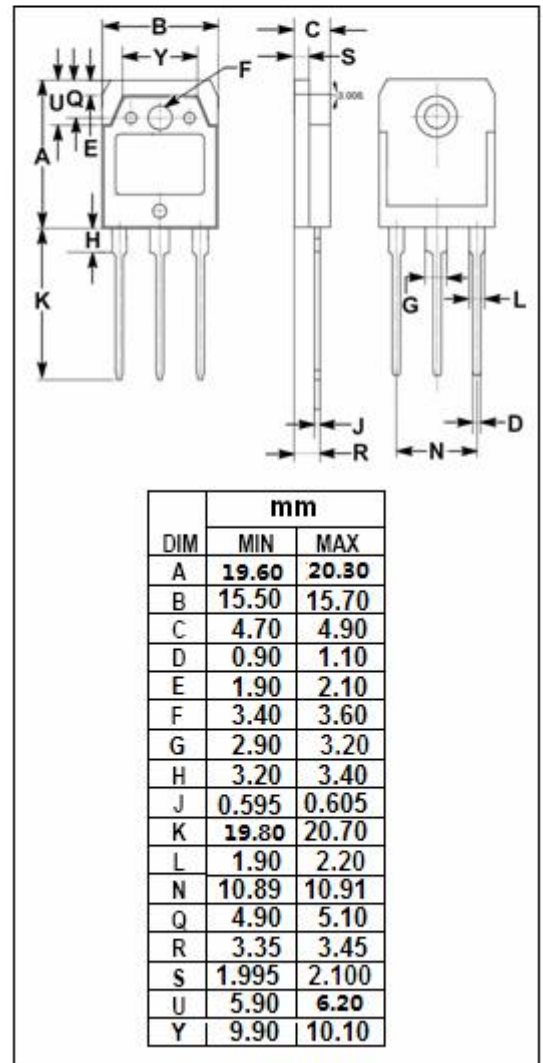
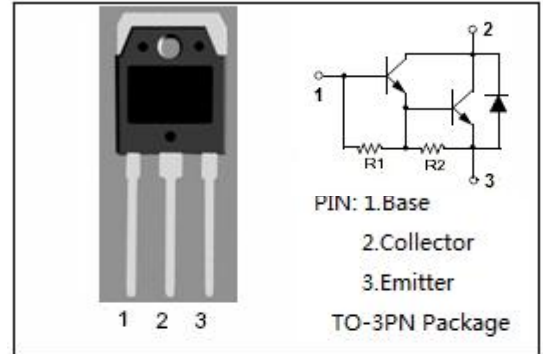
- Designed for use in automotive ignition, switching and motor control applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	380	V
V_{CEO}	Collector-Emitter Voltage	380	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 @ $T_C = 25^\circ C$	125	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

THERMAL CHARACTERISTICS

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



isc Silicon NPN Darlington Power Transistor**TIP162****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 6.5A, I _B = 0.1A			2.8	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10A, I _B = 1A			2.9	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 6.5A, I _B = 0.1A			2.2	V
I _{CEO}	Collector Cutoff current	V _{CE} = 380V, I _B = 0			1.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	mA
h _{FE}	DC Current Gain	I _C = 4A; V _{CE} = 2.2V	200			
V _F	C-E Diode Forward Voltage	I _F = 10A			3.5	V

Switching Times

t _d	Delay Time	V _{CC} = 33V, I _C = 6.5A, I _{B1} = -I _{B2} = 100mA; t _p = 20 μs; Duty Cycle ≤ 2%		0.3		μs
t _r	Rise Time			1.5		μs
t _{stg}	Storage Time			2.3		μs
t _f	Fall Time			2.8		μs

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