

isc Silicon NPN Darlington Power Transistor

BU931ZP

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 350V(\text{Min.})$
- High Reliability
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

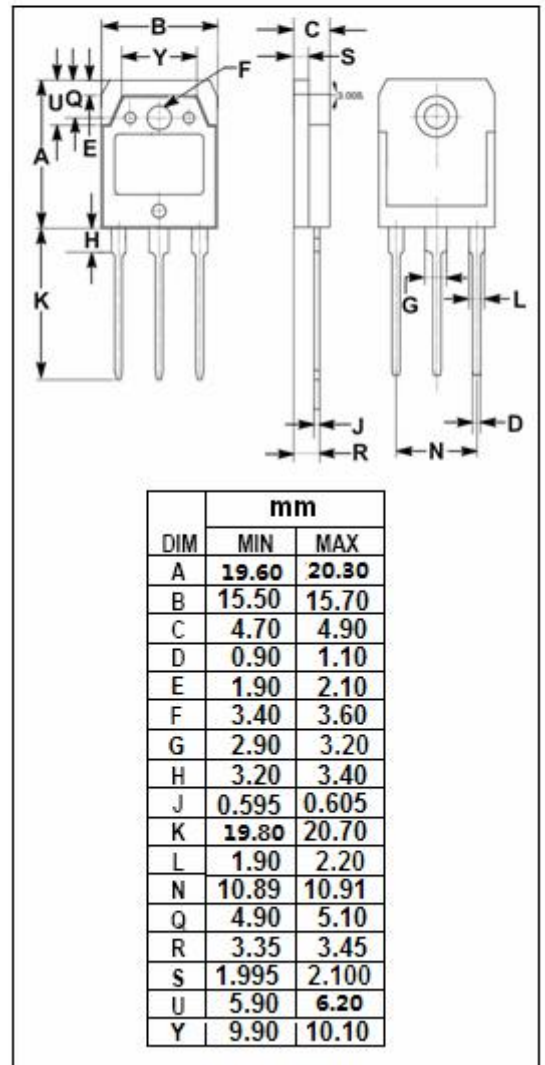
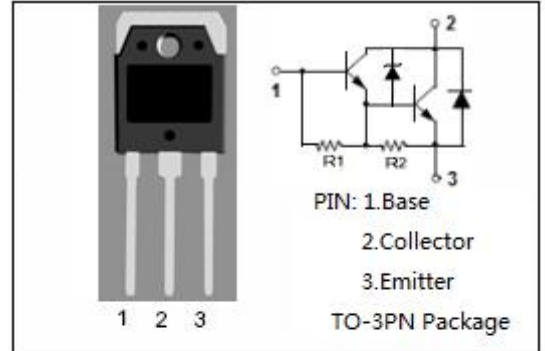
- High ruggedness electronic ignitions
- High voltage ignition coil driver

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	350	V
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current- Continuous	20	A
I_B	Base Current	5	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	-40~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	350			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 7 A; I _B = 70mA			1.6	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 8 A; I _B = 100mA			1.8	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = 10 A; I _B = 150mA			2.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 8 A; I _B = 100mA			2.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 10 A; I _B = 150mA			2.5	V
V _{BE(on)-1}	Base-Emitter On Voltage	I _C = 5A ; V _{CE} = 2V		1.67	2.0	V
V _{BE(on)-2}	Base-Emitter On Voltage	I _C = 10A ; V _{CE} = 2V		2.0	2.4	V
I _{CBO}	Collector Cutoff Current	V _{CB} = RatedV _{CBO} ; I _E = 0			0.25	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			50	mA
h _{FE}	DC Current Gain	I _C = 5A; V _{CE} = 2V	300			
V _{ECF}	C-E Diode Forward Voltage	I _F = 10A			2.5	V

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