

isc Silicon NPN Darlington Power Transistor

BU941ZPFI

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

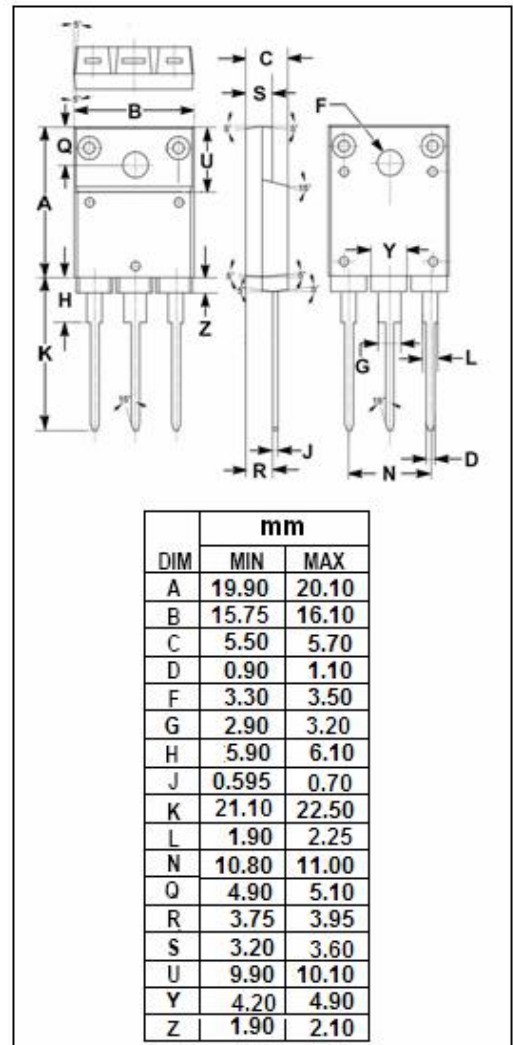
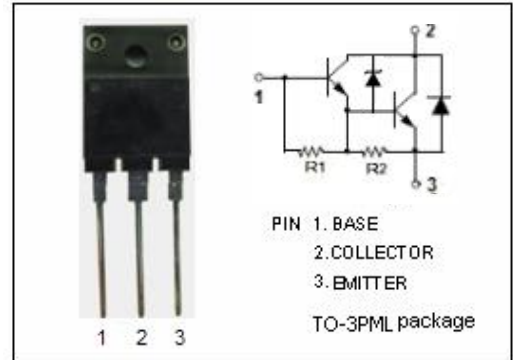
- High ruggedness electronic ignitions
- High voltage ignition coil driver

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEO}	Collector-Emitter Voltage	350	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current- Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current	1	A
I_{BM}	Base Current-peak	5	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	65	W
T_j	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.3	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	350			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 8 A; I _B = 100mA			1.8	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 10 A; I _B = 250mA			1.8	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = 12 A; I _B = 300mA			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 = 250mA			2.5	V
V _{BE(sat)-3}	Base-Emitter Saturation Voltage	I _C = 12 A; I _B = 300mA			2.7	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			20	mA
h _{FE}	DC Current Gain	I _C = 5A; V _{CE} = 10V	300			
V _{ECF}	C-E Diode Forward Voltage	I _F = 10A			2.5	V

Switching Times

t _s	Storage Time	V _{CC} = 12V; I _C = 7A, I _{B1} = -I _{B2} = 70mA		15		μ s
t _f	Fall Time			0.5		μ s

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