

isc Silicon NPN Darlington Power Transistor

BUX90

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
 $V_{CEO(SUS)} = 400V(\text{Min})$
- High Reliability
- DARLINGTON
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

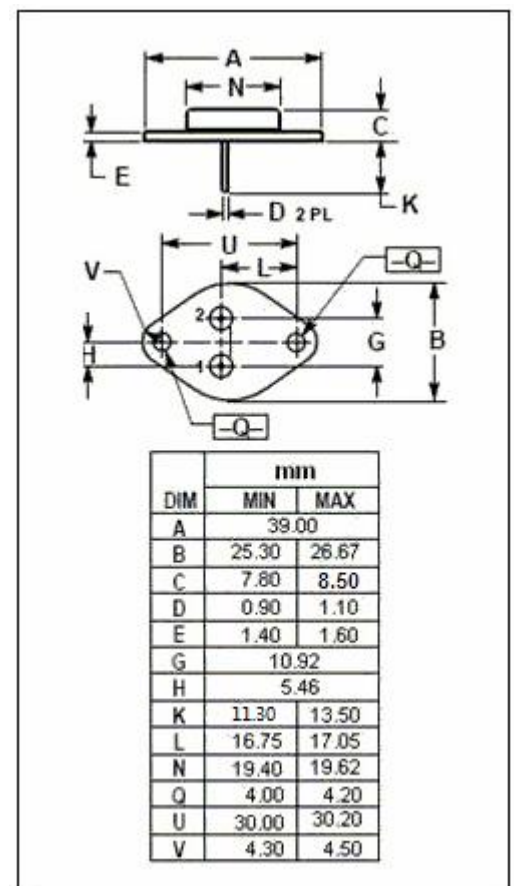
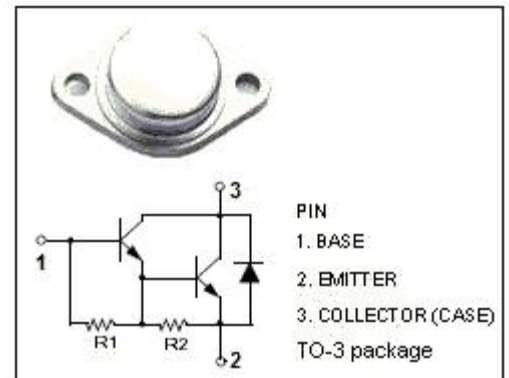
- Automotive ignition applications
- Inverters circuits for motor controls

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	650	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	12	A
I_{CM}	Collector Current-peak	20	A
I_B	Base Current	1	A
I_{BM}	Base Current-peak	5	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	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	$^\circ\text{C}/\text{W}$



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ELECTRICAL CHARACTERISTICS

Tj=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	400			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 8A; I _B = 100mA			1.6	V
V _{CE(sat) -2}	Collector-Emitter Saturation Voltage	I _C = 10A; I _B = 250mA			1.8	V
V _{BE(sat) -1}	Base-Emitter Saturation Voltage	I _C = 8A; I _B = 100mA			2.2	V
V _{BE(sat) -2}	Base-Emitter Saturation Voltage	I _C = 10A; I _B = 250mA			2.5	V
I _{CES}	Collector Cutoff Current	V _{CE} = 650V; V _{BE} = 0 V _{CE} = 650V; V _{BE} = 0; T _j = 125°C			1.0 5.0	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 400V; I _B = 0			1.0	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			2.8	V

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