

## isc Silicon NPN Darlington Power Transistor

BU920T

## DESCRIPTION

- High Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

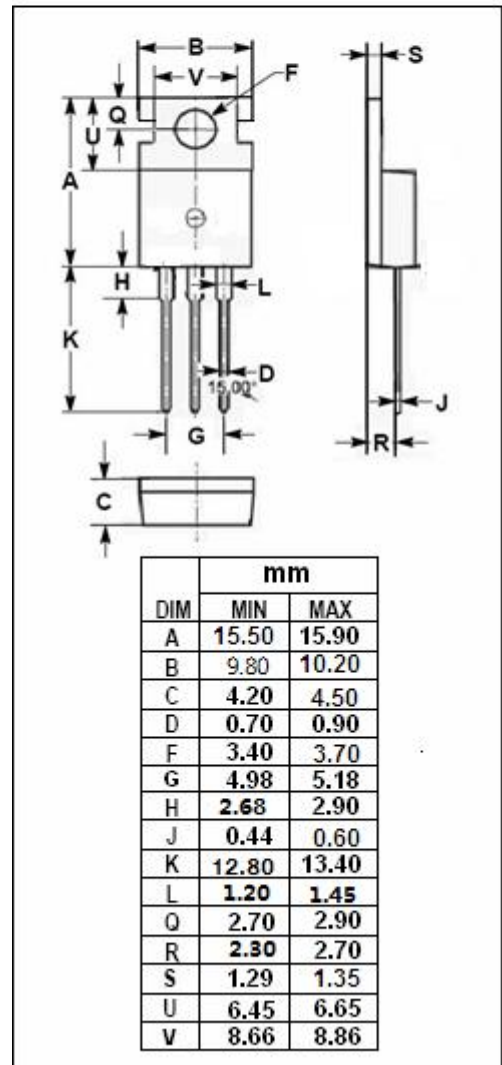
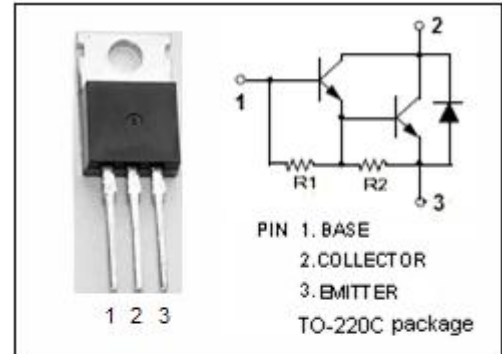
- Designed for automotive ignition applications and inverter circuits for motor control.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CES}$	Collector-Emitter Voltage $V_{BE}=0$	400	V
$V_{CEO}$	Collector-Emitter Voltage	350	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	10	A
$I_{CM}$	Collector Current-peak	15	A
$I_B$	Base Current	5	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	105	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	1.2	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0	350			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 50mA			1.8	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 140mA			1.8	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5A; I <sub>B</sub> = 50mA			2.2	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 7A; I <sub>B</sub> = 140mA			2.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CE</sub> = 400V; V <sub>BE</sub> = 0 V <sub>CE</sub> = 400V; V <sub>BE</sub> = 0; T <sub>j</sub> = 125°C			0.25 0.5	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 350V; I <sub>B</sub> = 0			0.25	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			50	mA
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 7A			2.5	V

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