

**isc Silicon Darlington NPN Power Transistor**
**BU522A**
**DESCRIPTION**

- High Voltage
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 2.0V @ I_C = 4A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

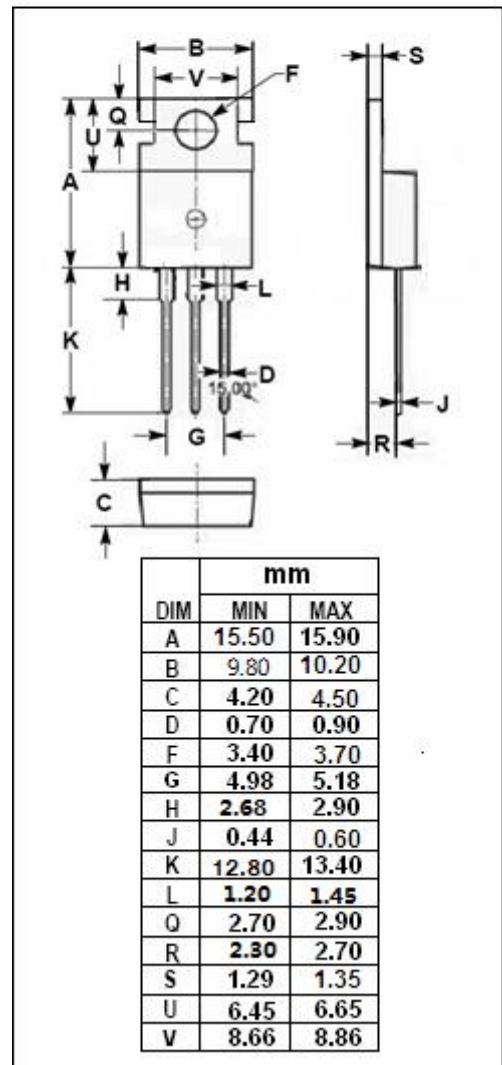
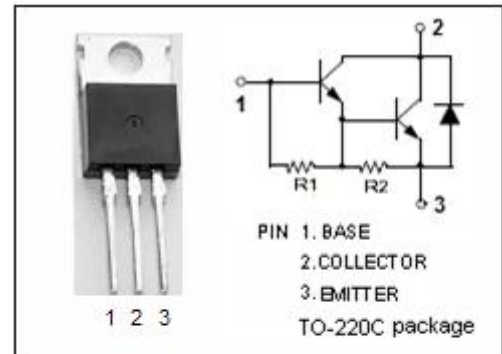
- Designed for use in ignition circuit.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CER(SUS)}$	Collector-Emitter Voltage	400	V
$V_{CER}$	Collector-Emitter Voltage	425	V
$V_{CBO}$	Collector-Base Voltage	450	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	7	A
$I_B$	Base Current	2	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	75	W
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CER(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> =50mA; I <sub>B</sub> =0	400			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 80mA			2.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 80mA			2.5	V
I <sub>CER</sub>	Collector Cutoff Current	V <sub>CR</sub> = 400V; R <sub>BE</sub> = 270 Ω			1.0	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 450V; I <sub>E</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			40	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 2.5A; V <sub>CE</sub> = 5V	250			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.3A; V <sub>CE</sub> = 5V		7.5		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 0.1MHz		150		pF

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