

## MEDIUM VOLTAGE NPN IGNITION DARLINGTON

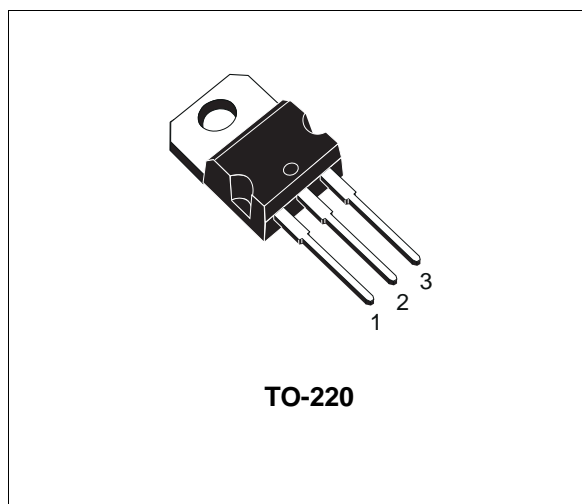
- SGS-THOMSON PREFERRED SALESTYPE
- NPN DARLINGTON
- LOW BASE-DRIVE REQUIREMENTS
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE

### APPLICATIONS:

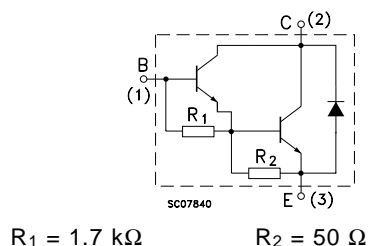
- SOLENOID / RELAY DRIVERS
- MOTOR CONTROL
- ELECTRONIC AUTOMOTIVE IGNITION

### DESCRIPTION

The BU911 is an NPN transistor in monolithic Darlington configuration Jedec TO-220 plastic package, designed for applications such as electronic ignition, DC and AC motor controls, solenoid drivers, etc.



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CES}$	Collector-Emitter Voltage ( $V_{BE} = 0$ )	450	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	400	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	5	V
$I_C$	Collector Current	6	A
$I_{CM}$	Collector Peak Current	10	A
$I_B$	Base Current	1	A
$P_{tot}$	Total Dissipation at $T_c \leq 25^\circ\text{C}$	60	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

**THERMAL DATA**

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	2.08	°C/W
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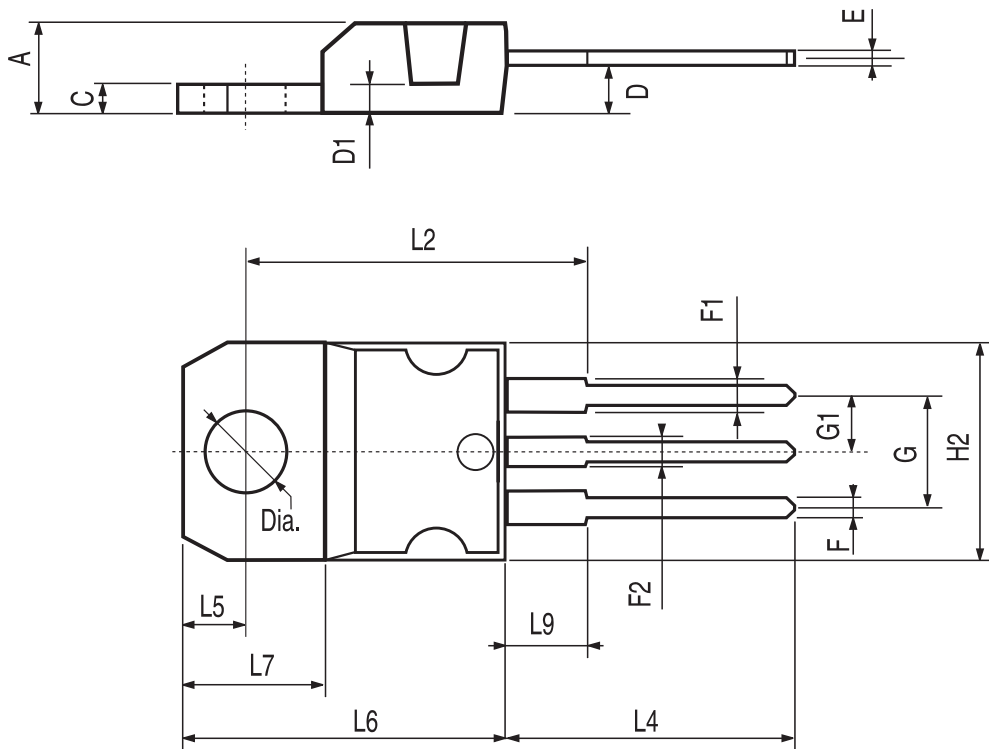
**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	V <sub>CE</sub> = 450 V V <sub>CE</sub> = 450 V      T <sub>case</sub> = 125°C			1 5	mA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 400 V			1	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			5	mA
V <sub>CEO(sus)*</sub>	Collector-emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 100 mA	400			V
V <sub>CE(sat)*</sub>	Collector-emitter Saturation Voltage	I <sub>C</sub> = 2.5 A      I <sub>B</sub> = 50 mA I <sub>C</sub> = 4 A      I <sub>B</sub> = 200 mA			1.8 1.8	V V
V <sub>BE(sat)*</sub>	Base-emitter Saturation Voltage	I <sub>C</sub> = 2.5 A      I <sub>B</sub> = 50 mA I <sub>C</sub> = 4 A      I <sub>B</sub> = 200 mA			2.2 2.5	V V
V <sub>F*</sub>	Diode Forward Voltage	I <sub>F</sub> = 4 A			2.5	V

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %.

**TO-220 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



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