

**isc Silicon NPN Darlington Power Transistor**
**BDW93C**
**DESCRIPTION**

- With TO-220 packaging
- Very high DC current gain
- Monolithic darlington transistor with integrated antiparallel collector-emitter diode
- Complement to Type BDW94C
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

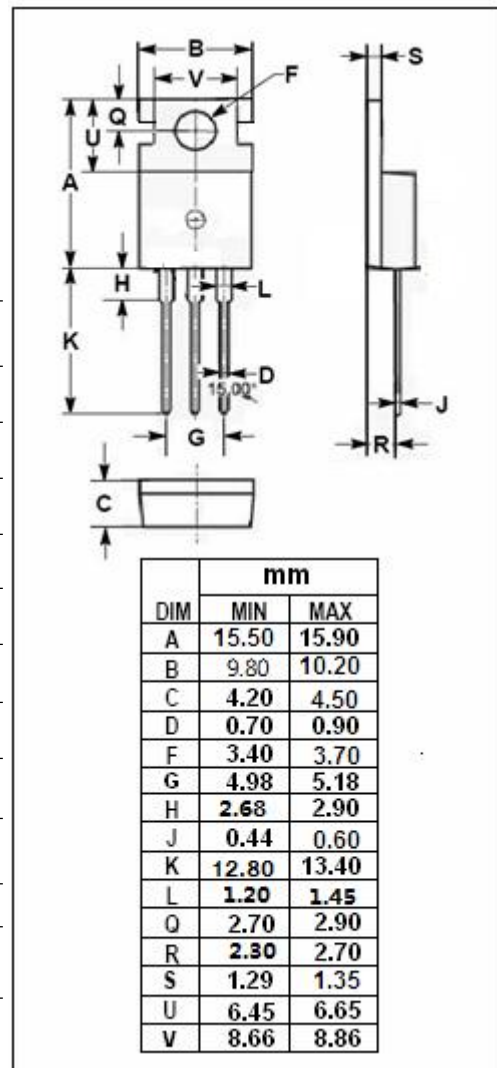
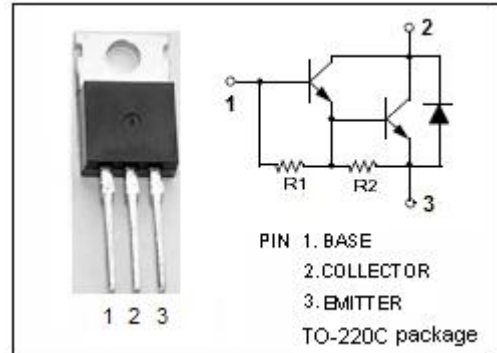
- AC-DC motor control
- Electronic ignition
- Alternator regulator

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EB0</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	12	A
I <sub>CM</sub>	Collector Current-Peak	15	A
I <sub>B</sub>	Base Current- Continuous	0.2	A
P <sub>C</sub>	Collector Power Dissipation	80	W
T <sub>j</sub>	Max.Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-65~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	1.56	°C/W



**isc Silicon NPN Darlington Power Transistor****BDW93C****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 100mA, I <sub>B</sub> = 0	100		V
V <sub>CE(sat)1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5A ,I <sub>B</sub> = 20mA		2.0	V
V <sub>CE(sat)2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 10A ,I <sub>B</sub> = 100mA		3.0	V
V <sub>BE(sat)1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5A ,I <sub>B</sub> = 20mA		2.5	V
V <sub>BE(sat)2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 10A ,I <sub>B</sub> = 100mA		4.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> =100V, I <sub>E</sub> = 0		100	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 100V, I <sub>B</sub> = 0		1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0		2	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 3A ; V <sub>CE</sub> = 3V	1000	20000	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 5A ; V <sub>CE</sub> = 3V	750	20000	
h <sub>FE-3</sub>	DC Current Gain	I <sub>C</sub> = 10A ; V <sub>CE</sub> = 3V	100	20000	

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