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
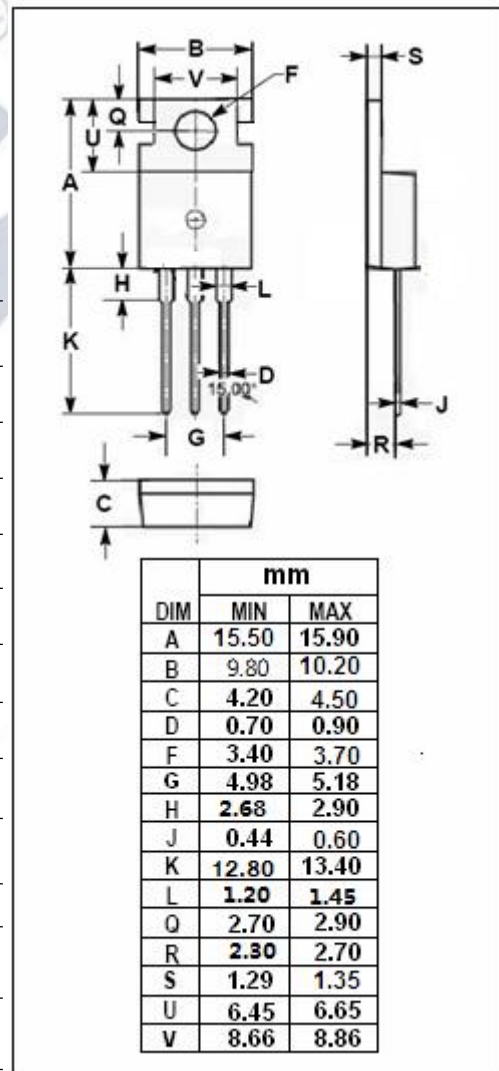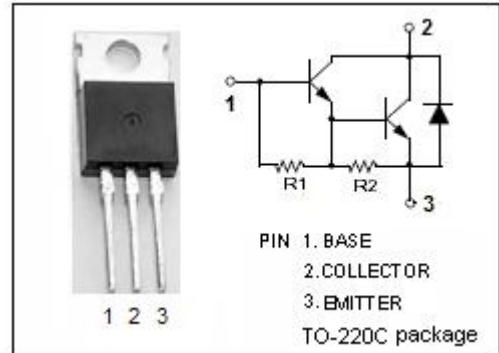
APPLICATIONS

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

PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-220C package

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current- Continuous	0.2	A
P_C	Collector Power Dissipation	80	W
T_j	Max.Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	1.56	℃/W

	mm	
DIM	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T$_C$=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V$_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I$_C$= 100mA, I$_B$= 0	100		V
V$_{CE(sat)1}$	Collector-Emitter Saturation Voltage	I$_C$= 5A ,I$_B$= 20mA		2.0	V
V$_{CE(sat)2}$	Collector-Emitter Saturation Voltage	I$_C$= 10A ,I$_B$= 100mA		3.0	V
V$_{BE(sat)1}$	Base-Emitter Saturation Voltage	I$_C$= 5A ,I$_B$= 20mA		2.5	V
V$_{BE(sat)2}$	Base-Emitter Saturation Voltage	I$_C$= 10A ,I$_B$= 100mA		4.0	V
I$_{CBO}$	Collector Cutoff Current	V$_{CB}$=100V, I$_E$= 0		100	μ A
I$_{CEO}$	Collector Cutoff Current	V$_{CE}$= 100V, I$_B$= 0		1	mA
I$_{EBO}$	Emitter Cutoff Current	V$_{EB}$= 5V; I$_C$= 0		2	mA
h$_{FE-1}$	DC Current Gain	I$_C$= 3A ; V$_{CE}$= 3V	1000	20000	
h$_{FE-2}$	DC Current Gain	I$_C$= 5A ; V$_{CE}$= 3V	750	20000	
h$_{FE-3}$	DC Current Gain	I$_C$= 10A ; V$_{CE}$= 3V	100	20000	