

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- MONOLITHIC DARLINGTON CONFIGURATION
- COMPLEMENTARY PNP - NPN DEVICES
- INTEGRATED ANTIPARALLEL COLLECTOR-EMITTER DIODE
- FULLY MOLDED ISOLATED PACKAGE
- 2000 V DC ISOLATION (U.L. COMPLIANT)

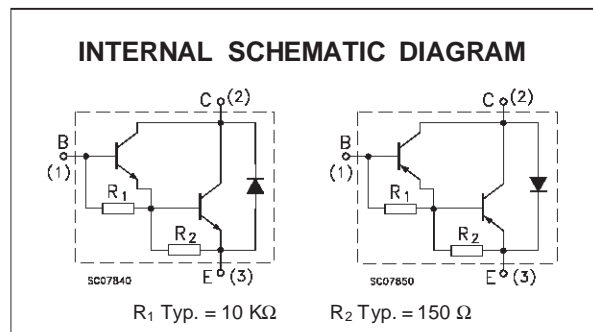
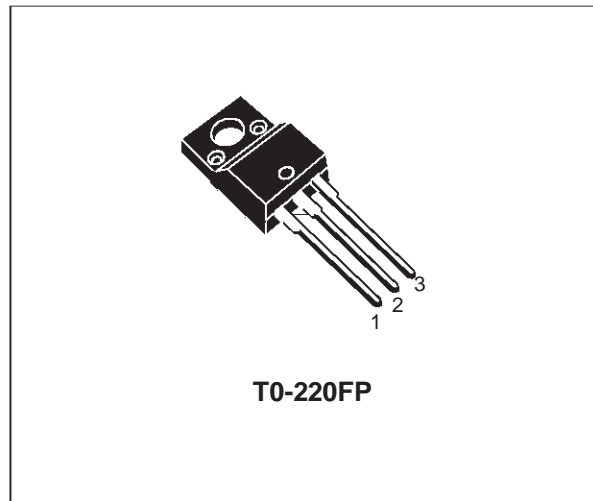
APPLICATIONS

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

DESCRIPTION

The BDW93CFP, is a silicon epitaxial-base NPN transistor in monolithic Darlington configuration and is mounted in TO-220FP fully molded isolated package. It is intended for use in power linear and switching applications.

The complementary PNP type is the BDW94CFP.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	PNP	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	BDW93CFP		V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	BDW94CFP		
I_C	Collector Current	100		A
I_{CM}	Collector Peak Current	12		A
I_B	Base Current	15		A
P_{tot}	Total Dissipation at $T_c \leq 25^\circ C$	0.2		W
T_{stg}	Storage Temperature	33		$^\circ C$
T_j	Max. Operating Junction Temperature	-65 to 150		$^\circ C$

For PNP types voltage and current values are negative.

BDW93CFP / BDW94CFP

THERMAL DATA

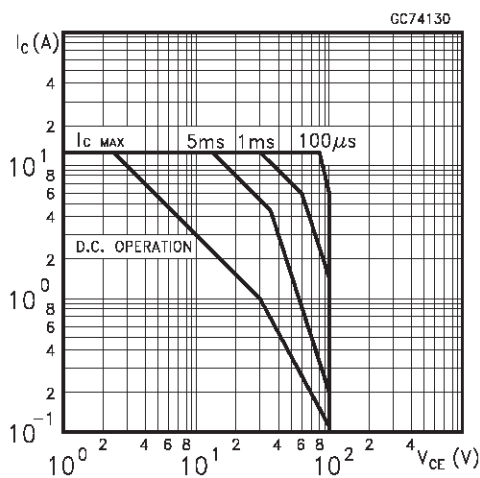
R _{thj-case}	Thermal Resistance Junction-case	3.8	°C/W
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 100 V V _{CB} = 100 V T _{case} = 150 °C			100 5	μA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 80 V			1	mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			2	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	100			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 5 A I _C = 10 A			2 3	V V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 5 A I _C = 10 A			2.5 4	V V
h _{FE*}	DC Current Gain	I _C = 3 A I _C = 5 A I _C = 10 A			1000 750 100	
V _{F*}	Parallel-diode Forward Voltage	I _F = 5 A I _F = 10 A		1.3 1.8	2 4	V V
h _{fe}	Small Signal Current Gain	I _C = 1 A f = 1 MHz	20			

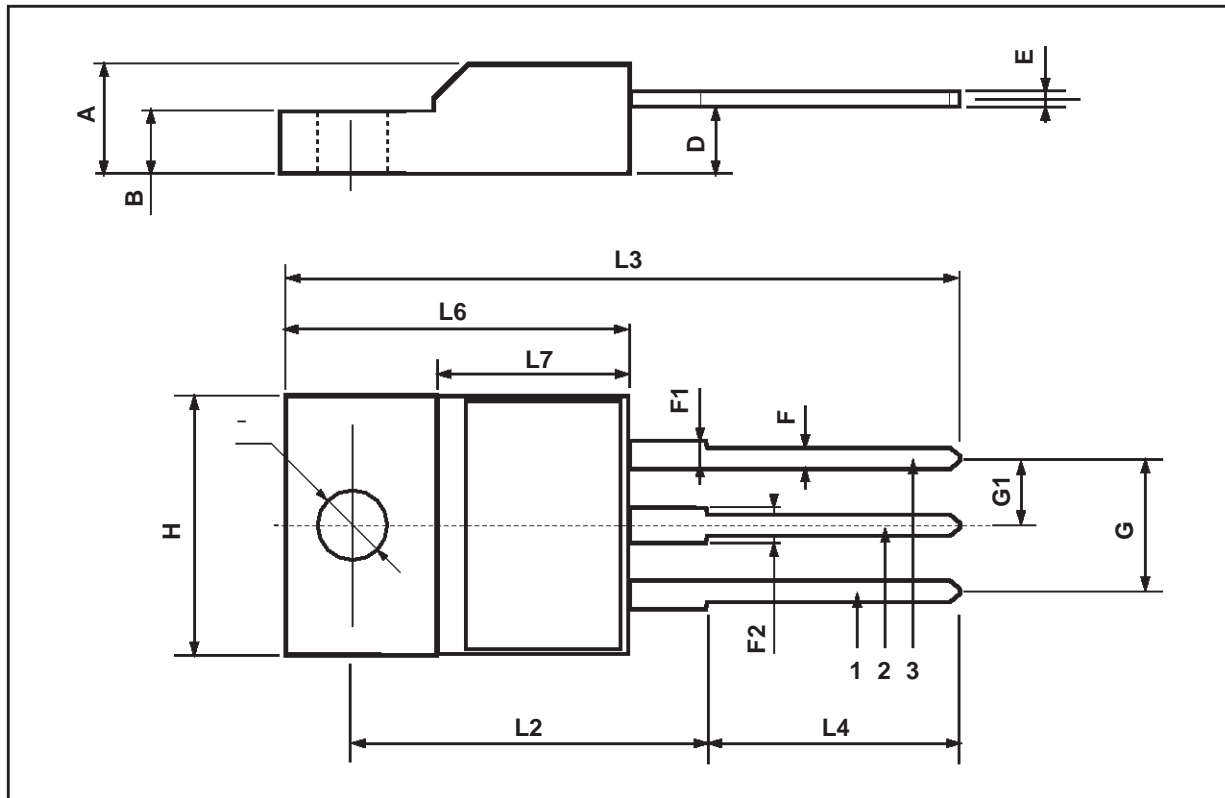
* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %
For PNP types voltage and current values are negative.

Safe Operating Area



TO-220FP MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.4		4.6	0.173		0.181
B	2.5		2.7	0.098		0.106
D	2.5		2.75	0.098		0.108
E	0.45		0.7	0.017		0.027
F	0.75		1	0.030		0.039
F1	1.15		1.7	0.045		0.067
F2	1.15		1.7	0.045		0.067
G	4.95		5.2	0.195		0.204
G1	2.4		2.7	0.094		0.106
H	10		10.4	0.393		0.409
L2		16			0.630	
L3	28.6		30.6	1.126		1.204
L4	9.8		10.6	0.385		0.417
L6	15.9		16.4	0.626		0.645
L7	9		9.3	0.354		0.366
Ø	3		3.2	0.118		0.126



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