



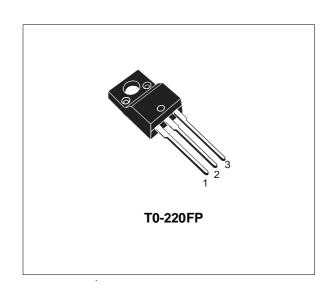
SILICON POWER DARLINGTON TRANSISTOR

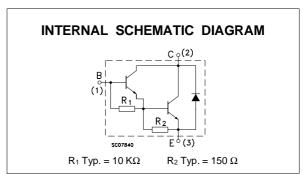
APPLICATIONS:

- GENERAL PURPOSE SWITCHING AND AMPLIFIER
- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT
- FULLY INSULATED PACKAGE (U.L. COMPLIANT) FOR EASY MOUNTING

DESCRIPTION

The BDX53BFP is a silicon Epitaxial-Base NPN power transistor in monolithic Darlington configuration mounted in T0-220FP fully molded isolated package. It is intented for use in hammer drivers, audio amplifiers and other medium power linear and switching applications.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage (I _E = 0)	80	V
V_{CEO}	Collector-Emitter Voltage (I _B = 0)	80	V
V _{EBO}	Emitter-base Voltage (I _C = 0)	5	V
Ic	Collector Current	8	А
I _{CM}	Collector Peak Current (repetitive)	12	А
lΒ	Base Current	0.2	А
P_{tot}	Total Dissipation at T _c ≤ 25 °C	29	W
V _{isol}	Insulation Withstand Voltage (RMS) from All Three Leads to External Heatsink	1500	V
T _{stg}	Storage Temperature	-65 to 150	°C
Tj	Max. Operating Junction Temperature	150	°C

February 2003

THERMAL DATA

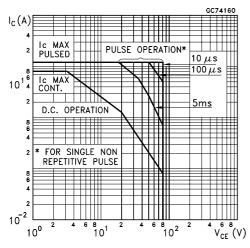
R _{thj-case}	Thermal Resistance Junction-case	Max	4.3	°C/W	Ì
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	70	°C/W	Ì

ELECTRICAL CHARACTERISTICS ($T_{case} = 25$ $^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Condi	tions	Min.	Тур.	Max.	Unit
Ісво	Collector Cut-off Current (I _E = 0)	V _{CB} = 80 V				0.2	mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 40 V				0.5	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		80			V
$V_{CE(sat)}*$	Collector-emitter Saturation Voltage	$I_C = 3 A$ I_B	=12 mA			2	V
$V_{BE(sat)^*}$	Base-emitter Saturation Voltage	$I_C = 3 A$ I_B	=12 mA			2.5	V
h _{FE} *	DC Current Gain	I _C = 3 A V	CE = 3 V	750			
V _F *	Parallel Diode Forward Voltage	I _F = 3 A I _F = 8 A			1.8 2.5	2.5	V V

^{*} Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

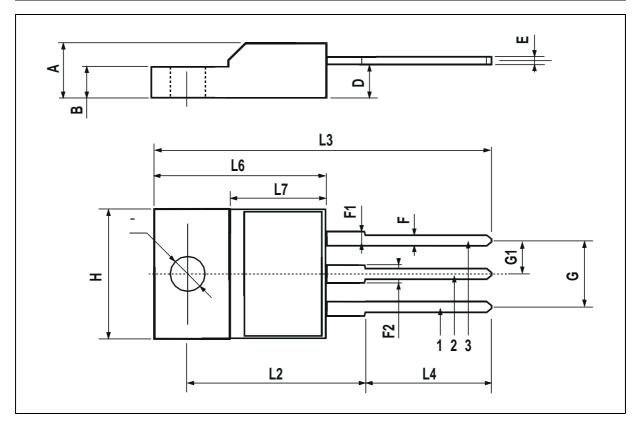
Safe Operating Area



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TO-220FP MECHANICAL DATA

DIM.	mm			inch		
DIIVI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
А	4.4		4.6	0.173		0.181
В	2.5		2.7	0.098		0.106
D	2.5		2.75	0.098		0.108
Е	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
Н	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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BDX53BFP

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