SGS-THOMSON
MICROELECTRONICS

BD241BFP
BD242BFP

COMPLEMENTARY SILICON POWER TRANSISTORS

- SGS-THOMSON PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- FULLY MOLDED ISOLATED PACKAGE
- 2000 V DC ISOLATION (U.L. COMPLIANT)

APPLICATIONS

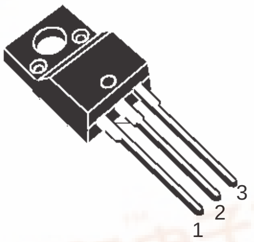
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

DESCRIPTION

The BD241BFP is silicon epitaxial-base NPN transistors mounted in TO-220FP fully molded isolated package.

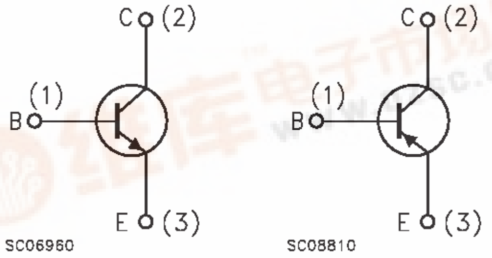
It is inteded for power linear and switching applications.

The complementary PNP types is the BD242BFP.



TO-220FP

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
		NPN	BD241BFP	
		PNP	BD242BFP	
V_{CER}	Collector-Base Voltage (R_{BE} = 100 Ω)		90	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)		80	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)		5	V
I_C	Collector Current		3	A
I_{CM}	Collector Peak Current		5	A
I_B	Base Current		1	A
P_{tot}	Total Dissipation at $T_c \leq 25\,^oC$		24	W
T_{stg}	Storage Temperature		-65 to 150	^oC
T_j	Max. Operating Junction Temperature		150	^oC

For PNP types voltage and current values are negative.

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	5.3	$^{o}C/W$

ELECTRICAL CHARACTERISTICS (T$_{case}$ = 25 ^{o}C unless otherwise specified)

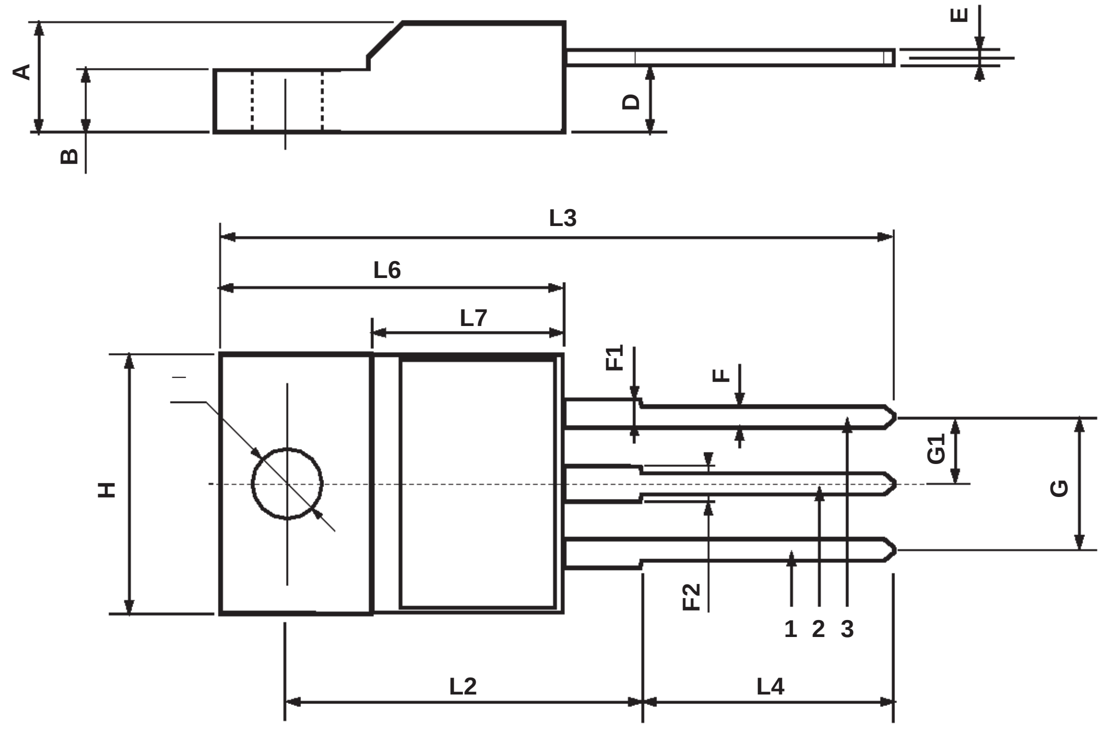
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector Cut-off Current (I_B = 0)	V_{CE} = 60 V			0.3	mA
I_{CES}	Collector Cut-off Current (V_{BE} = 0)	V_{CE} = 80 V			0.2	mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			1	mA
$V_{CEO(sus)}$∗	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 30 mA	80			V
$V_{CE(sat)}$∗	Collector-Emitter Saturation Voltage	I_C = 3 A I_B = 0.6 A			1.2	V
$V_{BE(ON)}$∗	Base-Emitter Voltage	I_C = 3 A V_{CE} = 4 V			1.8	V
h_{FE}∗	DC Current Gain	I_C = 1 A V_{CE} = 4 V I_C = 3 A V_{CE} = 4 V	25 10			

∗ Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %

For PNP types voltage and current values are negative.

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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