

## COMPLEMENTARY SILICON POWER TRANSISTORS

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

### APPLICATIONS

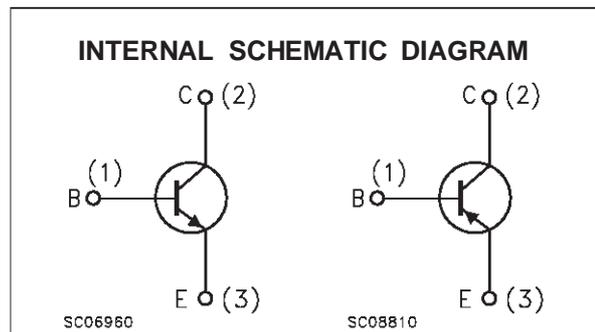
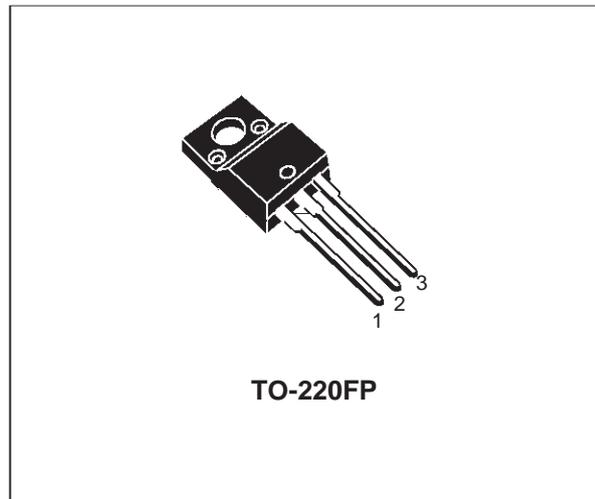
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

### DESCRIPTION

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

It is intended for power linear and switching applications.

The complementary PNP types is the BD242BFP.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	BD241BFP	
		PNP	BD242BFP	
$V_{CER}$	Collector-Base Voltage ( $R_{BE} = 100 \Omega$ )		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 $T_c \leq 25^\circ C$		24	W
$T_{stg}$	Storage Temperature		-65 to 150	$^\circ C$
$T_j$	Max. Operating Junction Temperature		150	$^\circ C$

For PNP types voltage and current values are negative.

## BD241BFP / BD242BFP

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### THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	5.3	$^{\circ}C/W$
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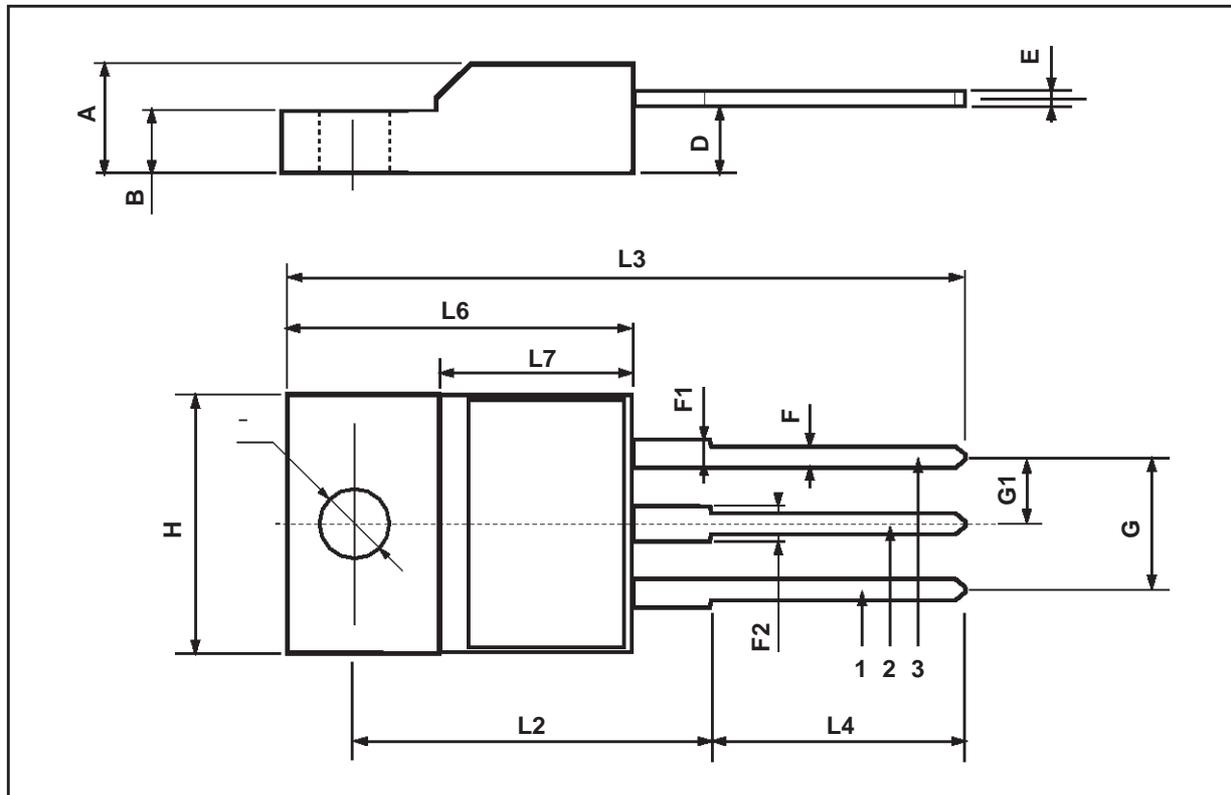
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

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  $\mu s$ , duty cycle  $\leq 2\%$   
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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