

COMPLEMENTARY SILICON POWER TRANSISTORS

- SGS-THOMSON PREFERRED SALES TYPES
- COMPLEMENTARY PNP - NPN DEVICES

APPLICATIONS

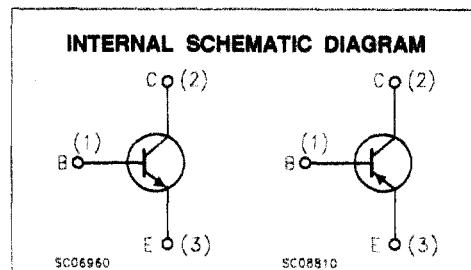
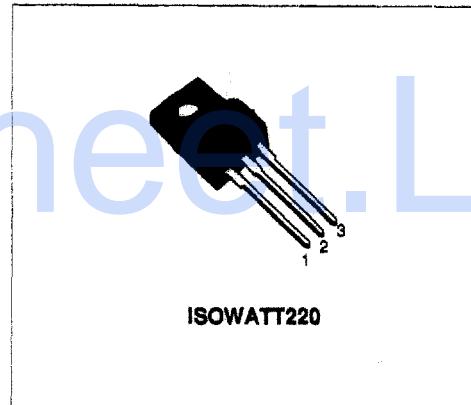
- GENERAL PURPOSE SWITCHING
- GENERAL PURPOSE AMPLIFIERS

DESCRIPTION

The BD241BFI is silicon epitaxial-base NPN transistors mounted in ISOWATT220 plastic package.

It is intended for power linear and switching applications.

The complementary PNP types is the BD242BFI.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
NPN	BD241BFI		
	BD242BFI		
V_{CER}	Collector-Base Voltage ($R_{BE} = 100 \Omega$)	90	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	80	V
V_{EB0}	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 $T_c \leq 25^\circ\text{C}$	18	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ\text{C}$
T_J	Max. Operating Junction Temperature	150	$^\circ\text{C}$

For PNP type voltage and current values are negative.

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	7	$^{\circ}\text{C/W}$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

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

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

For PNP types voltage and current values are negative.