

## COMPLEMENTARY SILICON POWER TRANSISTORS

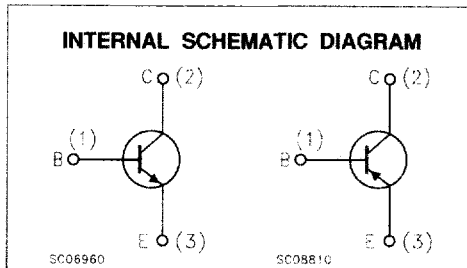
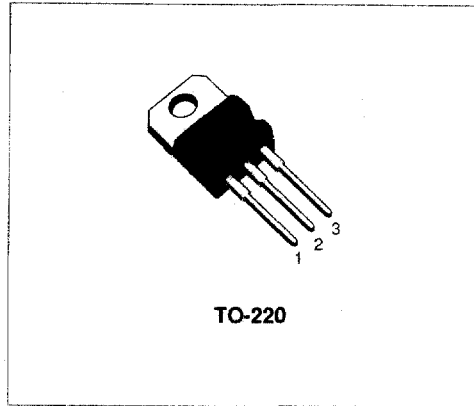
■ SGS-THOMSON PREFERRED SALESTYPES

### DESCRIPTION

The BD243B and BD243C are silicon epitaxial-base NPN transistors mounted in Jedec TO-220 plastic package.

They are intended for use in medium power linear and switching applications.

The complementary PNP types are BD244B and BD244C respectively.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit	
		NPN	BD243B		BD243C
		PNP	BD244B		BD244C
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	80	100	V	
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	80	100	V	
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	5		V	
$I_C$	Collector Current	6		A	
$I_{CM}$	Collector Peak Current	10		A	
$I_B$	Base Current	2		A	
$P_{tot}$	Total Dissipation at $T_c \leq 25^\circ\text{C}$	65		W	
$T_{stg}$	Storage Temperature	-65 to 150		$^\circ\text{C}$	
$T_J$	Max. Operating Junction Temperature	150		$^\circ\text{C}$	

For PNP types voltage and current values are negative.

**THERMAL DATA**

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	1.92	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	62.5	°C/W

**ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	V <sub>CE</sub> = rated V <sub>CEO</sub>			0.4	mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	for <b>BD243B/BD244B</b> V <sub>CE</sub> = 60 V for <b>BD243C/BD244C</b> V <sub>CE</sub> = 60 V			0.7 0.7	mA mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 5 V			1	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30 mA for <b>BD243B/BD244B</b> for <b>BD243C/BD244C</b>	80 100			V V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6 A I <sub>B</sub> = 1 A			1.5	V
V <sub>BE*</sub>	Base-Emitter Voltage	I <sub>C</sub> = 6 A V <sub>CE</sub> = 4 V			2	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = 0.3 A V <sub>CE</sub> = 4 V I <sub>C</sub> = 3 A V <sub>CE</sub> = 4 V	30 15			
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = 0.5 A V <sub>CE</sub> = 10 V f = 1MHz I <sub>C</sub> = 0.5 A V <sub>CE</sub> = 10 V f = 1KHz	3 20			

\* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %  
For PNP types voltage and current values are negative.