

COMPLEMENTARY SILICON POWER TRANSISTORS

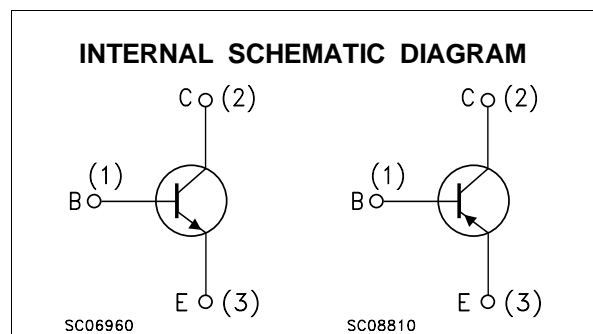
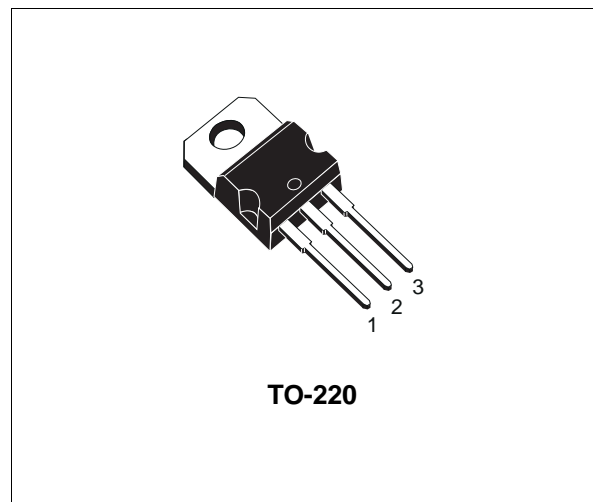
■ SGS-THOMSON PREFERRED SALESTYPES

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.

BD243B / BD243C / BD244B / BD244C

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.92	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	62.5	°C/W

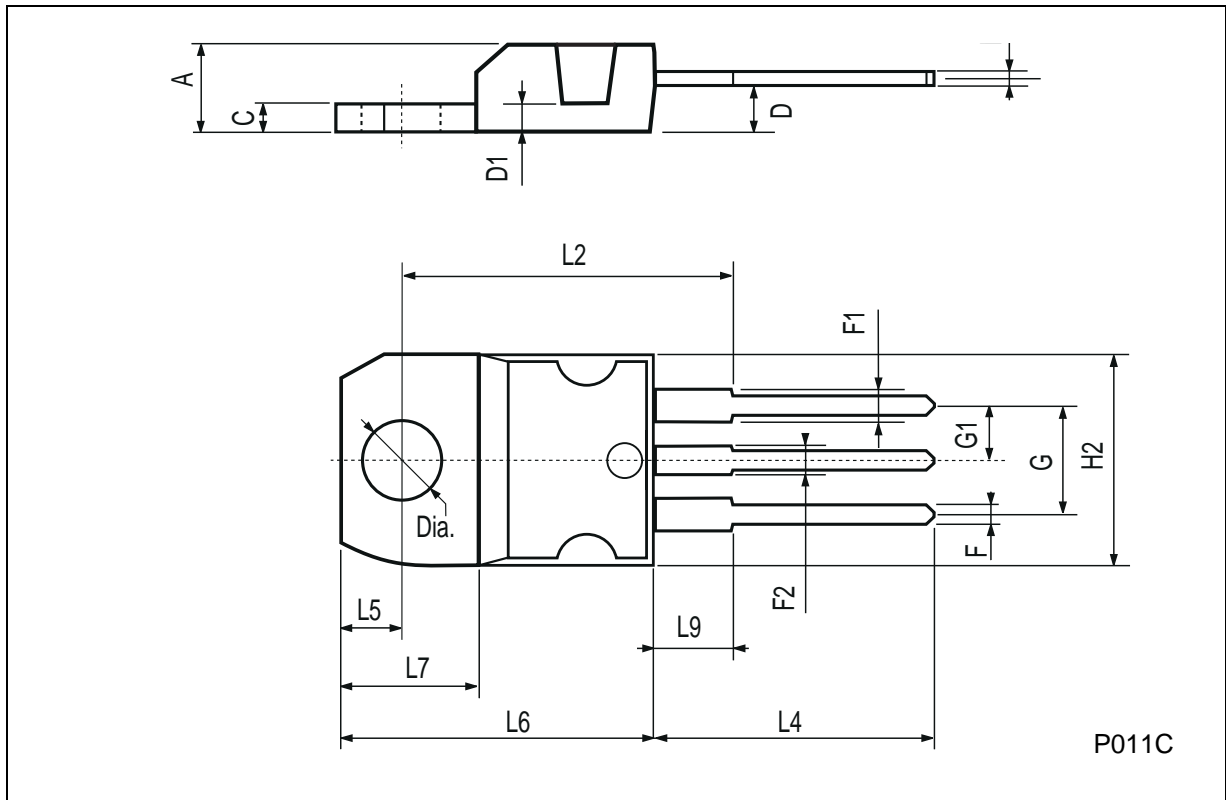
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

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

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

TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



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