

COMPLEMENTARY SILICON POWER TRANSISTORS

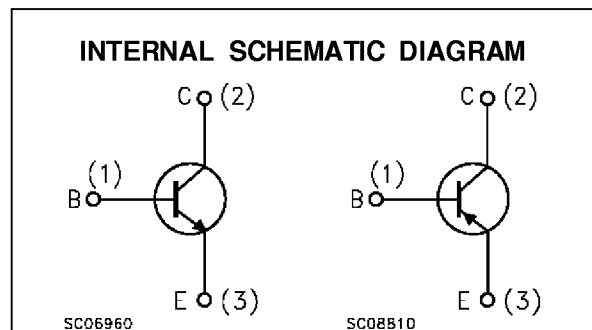
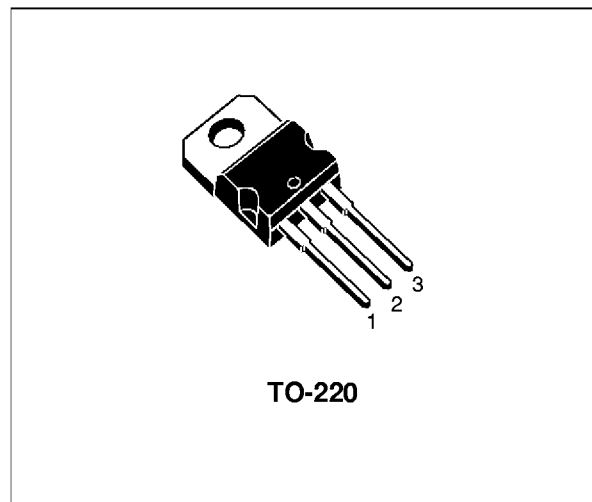
- BD243B, BF243C, BD244B AND DB244C ARE SGS-THOMSON PREFERRED SALESTYPES

DESCRIPTION

The BD243A, 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 BD244A, BD244B and BD244C respectively.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit	
		NPN	BD243A	BD243B		BD243C
		PNP	BD244A	BD244B		BD244C
V_{CBO}	Collector-Base Voltage ($I_E = 0$)		60	80	100	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)		60	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 $T_c \leq 25^\circ C$		65			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.

BD243A/B/C/BD244A/B/C

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.92	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	62.5	$^{\circ}C/W$

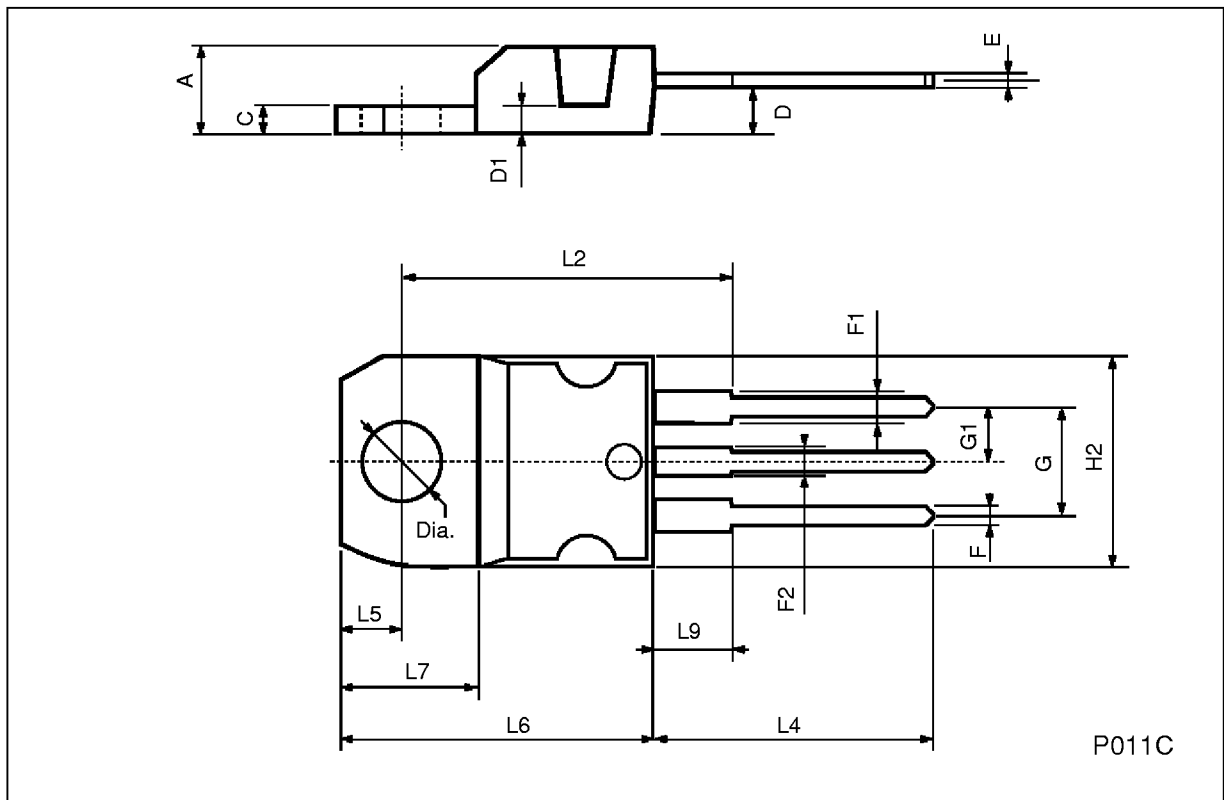
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = \text{rated } V_{CEO}$			0.4	mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	for BD243A/BD244A $V_{CE} = 30\text{ V}$ for BD243B/BD244B $V_{CE} = 60\text{ V}$ for BD243C/BD244C $V_{CE} = 60\text{ V}$			0.7 0.7 0.7	mA mA mA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	$V_{EB} = 5\text{ V}$			1	mA
$V_{CEO(sus)*}$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{ mA}$ for BD243A/BD244A for BD243B/BD244B for BD243C/BD244C	60 80 100			V V V
$V_{CE(sat)*}$	Collector-Emitter Saturation Voltage	$I_C = 6\text{ A}$ $I_B = 1\text{ mA}$			1.5	V
V_{BE*}	Base-Emitter Voltage	$I_C = 6\text{ A}$ $V_{CE} = 4\text{ V}$			2	V
h_{FE*}	DC Current Gain	$I_C = 0.3\text{ A}$ $V_{CE} = 4\text{ V}$ $I_C = 3\text{ A}$ $V_{CE} = 4\text{ V}$	30 15		150	
h_{fe}	Small Signal Current Gain	$I_C = 0.5\text{ A}$ $V_{CE} = 10\text{ V}$ $f = 1\text{ MHz}$ $I_C = 0.5\text{ A}$ $V_{CE} = 10\text{ V}$ $f = 1\text{ KHz}$	3 20			

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



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1995 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A