EPITAXIAL-BASE NPN/PNP

BD243 BD244
BD243A BD244A
BD243B BD244B
BD243C BD244C

POWER LINEAR AND SWITCHING APPLICATIONS

The BD243, BD243A, BD243B and BD243C are silicon epitaxial-base NPN power transistors in Jedec TO-220 plastic package, intended for use in medium power linear and switching applications. The complementary PNP types are the BD244, BD244A, BD244B and 244C respectively.

ABSOLUTE MAXIMUM RATINGS

		NPN / PNP*	BD243 / BD244	BD243A / BD244A	BD243B / BD244B	BD243C / BD244C
V_{CBO}	Collector-base voltage ($I_E = 0$)		45V	60V	80V	100V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)		45V	60V	80V	100V
V_{EBO}	Emitter-base voltage ($I_C = 0$)		5V			
I_C	Collector current		6A			
I_{CM}	Collector peak current		10A			
I_B	Base current		2A			
P_{tot}	Total power dissipation at $T_{case} \leqslant 25°C$		65W			
T_{stg}	Storage temeprature		-65 to 150°C			
T_j	Junction temperature		150°C			

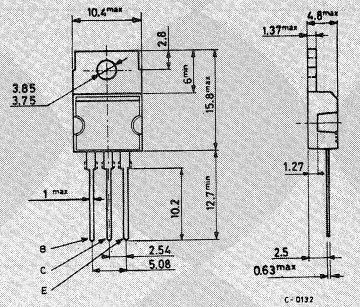
*** For PNP types voltage and current values are negative.**

INTERNAL SCHEMATIC DIAGRAMS

MECHANICAL DATA

Dimensions in mm

Collector connected to tab.



TO-220

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	1.92	°C/W
$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	62.5	°C/W

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

Parameter		Test conditions	Min.	Typ.	Max.	Unit
I_{CEO}	Collector cutoff current (I_B = 0)	for **BD243/44/43A/44A** V_{CE} = 30V			0.7	mA
		for **BD243B/44B/43C/44C** V_{CE} = 60V			0.7	mA
I_{CES}	Collector cutoff current (V_{BE} = 0)	for **BD243/44** V_{CE} = 45V			0.4	mA
		for **BD243A/44A** V_{CE} = 60V			0.4	mA
		for **BD243B/44B** V_{CE} = 80V			0.4	mA
		for **BD243C/44C** V_{CE} = 100V			0.4	mA
I_{EBO}	Emitter cutoff current (I_C = 0)	V_{EB} = 5V			1	mA
$V_{CEO\ (sus)}$*	Collector-emitter sustaining voltage (I_B = 0)	I_C = 30mA				
		for **BD243/44**	45			V
		for **BD243A/44A**	60			V
		for **BD243B/44B**	80			V
		for **BD243C/44C**	100			V
$V_{CE\ (sat)}$*	Collector-emitter saturation voltage	I_C = 6A I_B = 1A			1.5	V
V_{BE}*	Base-emitter voltage	I_C = 6A V_{CE} = 4V			2	V
h_{FE}*	DC current gain	I_C = 0.3A V_{CE} = 4V	30			—
		I_C = 3A V_{CE} = 4V	15			—
h_{fe}	Small signal current gain	I_C = 0.5A V_{CE} = 10V f = 1KHz		20		—
		I_C = 0.50 V_{CE} = 10V f = 1MHz		3		—

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

For PNP types voltage and current values are negative