MOSPEC

COMPLEMENTARY SILICON PLASTIC POWER TRANSISTORS

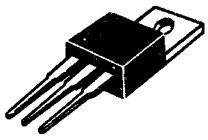
... designed for use in general purpose power amplifier and switching applications.

NPN	PNP
BD243	BD244
BD243A	BD244A
BD243B	BD244B
BD243C	BD244C

6 AMPERE
COMPLEMENTARY SILICON
POWER TRANSISTORS
45 -100 VOLTS
65 WATTS

FEATURES:

* Collector-Emitter Sustaining Voltage -
  $V_{CEO(sus)}$ = 45V(Min)- BD243,BD244
  60V(Min)- BD243A,BD244A
  80V(Min)- BD243B,BD244B
  100V(Min)- BD243C,BD244C
* DC Current Gain hFE= 30(Min)@I_C= 0.3A
* Current Gain-Bandwidth Product fT=3.0 MHz (Min)@ I_C=500mA



TO-220

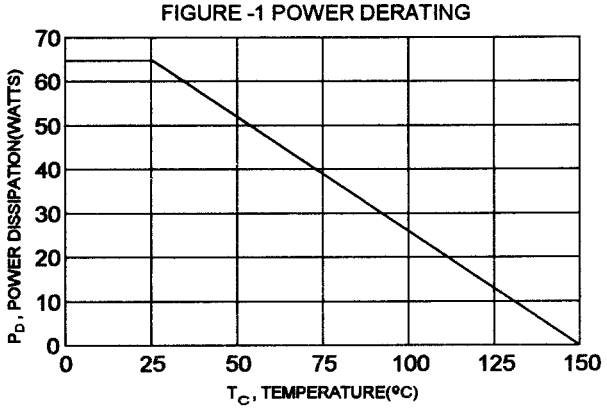
MAXIMUM RATINGS

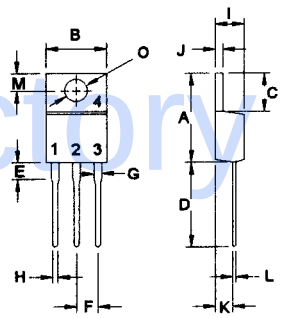
Characteristic	Symbol	BD243 BD244	BD243A BD244A	BD243B BD244B	BD243C BD244C	Unit
Collector-Emitter Voltage	V_{CEO}	45	60	80	100	V
Collector-Base Voltage	V_{CBO}	45	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0				V
Collector Current - Continuous - Peak	I_C	6.0 10				A
Base Current	I_B	2.0				A
Total Power Dissipation@T_C = 25°C Derate above 25°C	P_D	65 0.52				W W/°C
Operating and Storage Junction Temperature Range	T_J,T_{STG}	-65 to +150				°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	1.92	°C/W

FIGURE -1 POWER DERATING





PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

DIM	MILLIMETERS MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

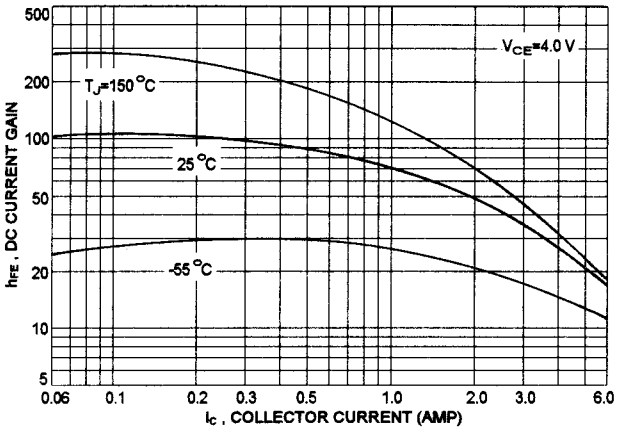
ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage(1) (I_C= 30 mA, I_B= 0)	BD243,BD244 BD243A,BD244A BD243B,BD244B BD243C,BD244C	$V_{CEO(sus)}$	45 60 80 100		V
Collector Cutoff Current (V_{CE}= 30 V, I_B= 0) (V_{CE}= 60 V, I_B= 0)	 BD243/44/43A/44A BD243B/44B/43C/44C	I_{CEO}		 0.7 0.7	mA
Collector Cutoff Current (V_{CE}= 45 V, V_{EB}= 0) (V_{CE}= 60 V, V_{EB}= 0) (V_{CE}= 80 V, V_{EB}= 0) (V_{CE}= 100 V, V_{EB}= 0)	 BD243/44 BD243A/44A BD243B/44B BD243C/44C	I_{CES}		 0.4 0.4 0.4 0.4	mA
Emitter Cutoff Current (V_{EB}= 5.0 V, I_C= 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
DC Current Gain (V_{CE} = 4.0 V, I_C = 0.3 A) (V_{CE} = 4.0 V, I_C = 3.0 A)		hFE	 30 15		
Collector-Emitter Saturation Voltage (I_C = 6.0 A, I_B = 1.0 A)		$V_{CE(sat)}$		1.5	V
Base-Emitter On Voltage (I_C =6.0 A, V_{CE}= 4.0 V)		$V_{BE(on)}$		2.0	V
DYNAMIC CHARACTERISTICS					
Current Gain-Bandwidth Prodct (2) (I_C=500 mA, V_{CE}=10 V, f= 1MHz)		f_T	3.0		MHz
Small-Signal Current Gain (I_C= 500 mA, V_{CE}= 10 V, f= 1KHz)		hfe	20		

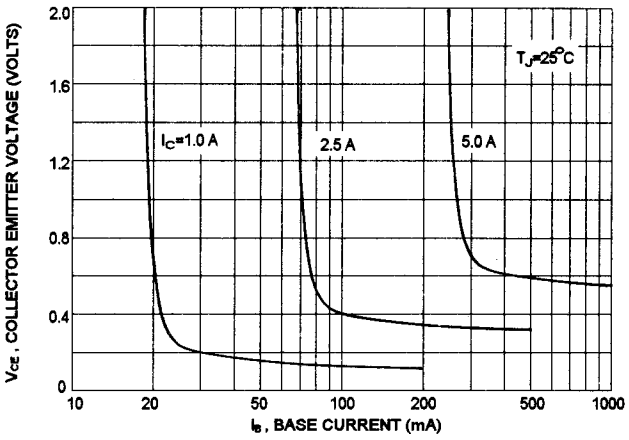
(1) Pulse Test: Pulse width = 300 μs , Duty Cycle ≦ 2.0%

(2) $f_T = |h_{fe}| \cdot f_{test}$

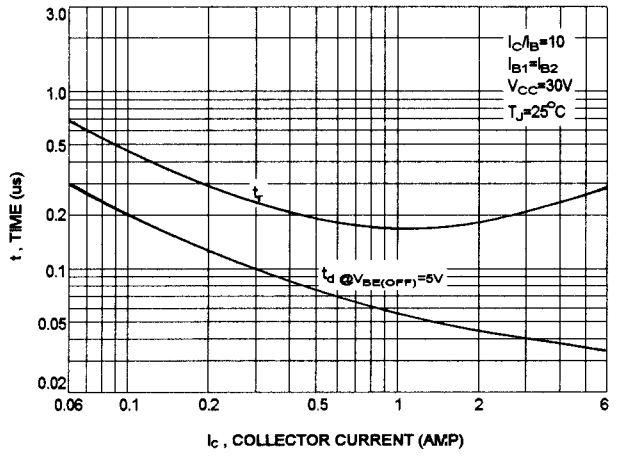
DC CURRENT GAIN



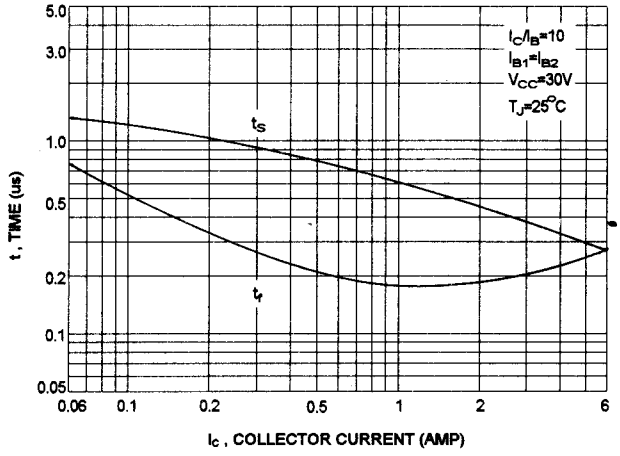
COLLECTOR SATURATION REGION



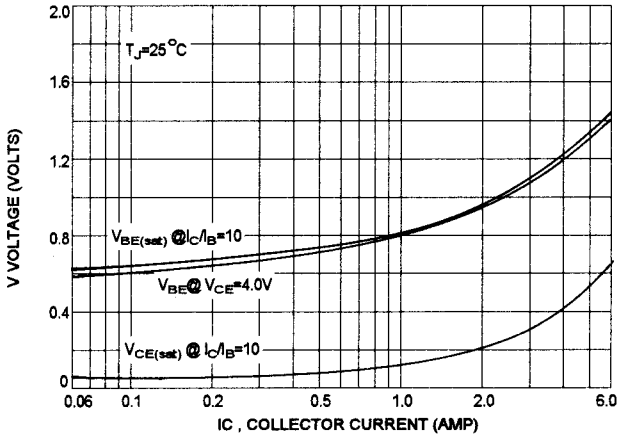
TURN-ON TIME



TURN-OFF TIME



"ON" VOLTAGES



ACTIVE REGION SAFE OPERATING AREA