BD245 – A – B – C

NPN SINGLE-DIFFUSED MESA SILICON POWER TRANSISTORS

They are the power transistors for power amplifier and high-speed-switching applications.
The complementary is BD246, A, B, C
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
V_{CEO}	Collector-Emitter Voltage (I_C = -30mA)	BD245	45	V
		BD245A	60	
		BD245B	80	
		BD245C	100	
V_{CER}	Collector-Emitter Voltage (R_{BE} = 100 Ω)	BD245	55	V
		BD245A	70	
		BD245B	90	
		BD245C	115	
V_{EBO}	Emitter-Base Voltage		5.0	V
I_C	Collector Current	I_C	10	A
		I_{CM}	15	
I_B	Base Current		3	A
P_T	Power Dissipation	T_{mb} = 25° C	80	Watts
T_J	Junction Temperature		-65 to +150	°C
T_S	Storage Temperature		-65 to +150	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	Junction to Case Thermal Resistance	1.56	°C / W
R_{thJA}	Junction to free air Thermal Resistance	42	°C / W

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CES}	Collector- Emitter Cut-off Current	V_{CE} = 55 V , V_{BE} = 0	BD245	-	-	0.4	mA
		V_{CE} = 70 V , V_{BE} = 0	BD245A				
		V_{CE} = 90 V , V_{BE} = 0	BD245B				
		V_{CE} = 115 V , V_{BE} = 0	BD245C				
I_{CEO}	Collector Cut-off Current	V_{CE} = 30 V , I_B = 0	BD245	-	-	0.7	mA
			BD245A				
		V_{CE} = 60 V , I_B = 0	BD245B				
			BD245C				
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5 V , I_C = 0		-	-	1	mA
V_{CEO}	Collector- Emitter Breakdown Voltage (*)	I_C = 30 mA, I_B = 0	BD245	45	-	-	V
			BD245A	60	-	-	
			BD245B	80	-	-	
			BD245C	100	-	-	
h_{FE}	DC Current Gain (*)	V_{CE} = 4 V, I_C = 1 A		40	-	-	-
		V_{CE} = 4 V, I_C = 3 A		20	-	-	
		V_{CE} = 4 V, I_C = 10 A		4	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C = 3 A, I_B = 300 mA		-	-	1	V
		I_C = 10 A, I_B = 2.5 A		-	-	4	
V_{BE}	Base-Emitter Voltage(*)	V_{CE} = 4 V, I_C = 3 A		-	-	1.6	V
		V_{CE} = 4 V, I_C = 10 A		-	-	3	
h_{fe}	Small Signal forward Current Transfer ratio	V_{CE} = 10 V, I_C = 500 mA f = 1MHz		20	-	-	-
$\|h_{fe}\|$	Small Signal forward Current Transfer ratio	V_{CE} = 10 V, I_C = 500 m Af = 1MHz		3	-	-	

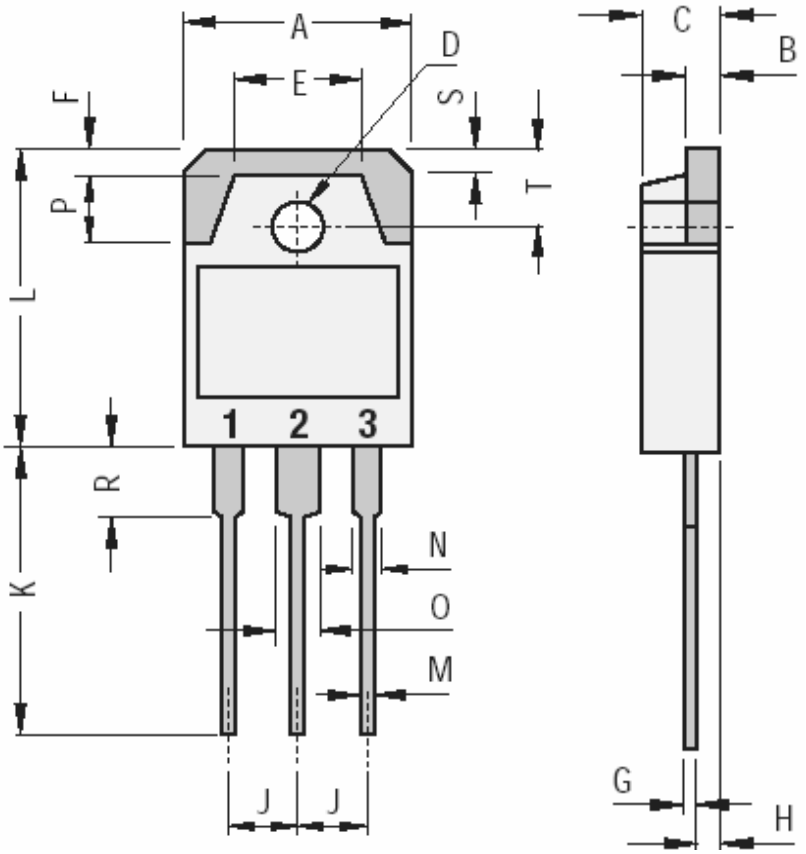
(*) Pulse Width ≈ 300 μs, Duty Cycle ∠ 2.0%

RESISTIVE-LOAD-SWITCHING CHARACTERISTICS AT 25°C CASE TEMPERATURE

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
t_{on}	Turn-on Time	I_C = 1 A , $I_{B(on)}$ = 100 mA , $I_{B(off)}$ = -100 mA $V_{BE(off)}$ = -3.7 V , R_L = 20 Ω t_p = 20 μs dc < 2%	-	0.3	-	μs
t_{off}	Turn-off Time		-	1	-	

BD245 – A – B – C

MECHANICAL DATA CASE TO3PN Non Isolated Plastic Package



DIMENSIONS (mm)		
	Min.	Max.
A	15.20	1600
B	1.90	2.10
C	4.60	5.00
D	3.10	3.30
E		9.60
F		2.00
G	0.35	0.55
H		1.40
J	5.35	5.55
K	20.00	
L	19.60	20.20
M	0.95	1.25
N		2.00
O		3.00
P		4.00
R		4.00
S		1.80
T	4.80	5.20

Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter

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