



## BD246, A, B, C

### PNP SINGLE-DIFFUSED MESA SILICON POWER TRANSISTORS

The BD246 series are PNP power transistors in a TO3PN envelope. They are the power transistors for power amplifier and high-speed-switching applications. The complementary is BD245, A, B, C  
Compliance to RoHS.

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit	
$V_{CEO}$	Collector-Emitter Voltage ( $I_C = -30mA$ )	BD246	-45	V
		BD246A	-60	
		BD246B	-80	
		BD246C	-100	
$V_{CER}$	Collector-Emitter Voltage ( $R_{BE} = 100 \Omega$ )	BD246	-55	V
		BD246A	-70	
		BD246B	-90	
		BD246C	-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	$T_{mb} = 25^\circ C$	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

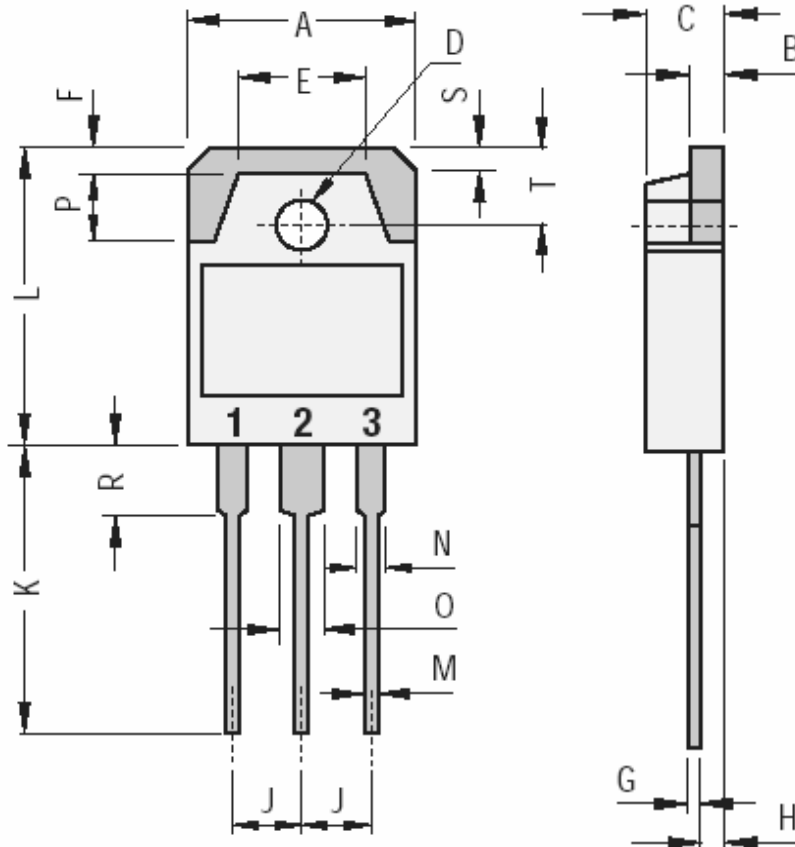
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$I_{CES}$	Collector- Emitter Cut-off Current	$V_{CE} = -55 V, V_{BE} = 0$ BD246	-	-	-0.4	mA	
		$V_{CE} = -70 V, V_{BE} = 0$ BD246A					
		$V_{CE} = -90 V, V_{BE} = 0$ BD246B					
		$V_{CE} = -115 V, V_{BE} = 0$ BD246C					
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = -30 V, I_B = 0$ BD246	-	-	-0.7	mA	
		BD246A					
		$V_{CE} = -60 V, I_B = 0$ BD246B					
		BD246C					
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5 V, I_C = 0$	-	-	-1	mA	
$V_{CEO}$	Collector- Emitter Breakdown Voltage (*)	$I_C = -30 mA, I_B = 0$	BD246	-45	-	-	V
			BD246A	-60	-	-	
			BD246B	-80	-	-	
			BD246C	-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	$V_{CE} = -10 V, I_C = -500 mA, f = 1MHz$	3	-	-		

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

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$t_{on}$	Turn-on Time	$I_C = -1 A, I_{B(on)} = -100 mA, I_{B(off)} = 100 mA$ $V_{BE(off)} = 3.7 V, R_L = 20 \Omega, t_p = 20 \mu s$ dc < 2%	-	0.2	-	$\mu s$
$t_{off}$	Turn-off Time	$I_C = -1 A, I_{B(on)} = -100 mA, I_{B(off)} = 100 mA$ $V_{BE(off)} = 3.7 V, R_L = 20 \Omega, t_p = 20 \mu s$ dc < 2%	-	0.8	-	

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### MECHANICAL DATA CASE TO3PN Non Isolated Plastic Package



DIMENSIONS (mm)		
	Min.	Max.
A	15.20	16.00
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

Revised August 2012

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