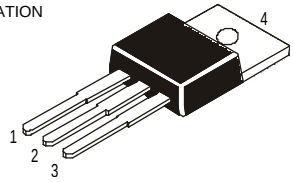
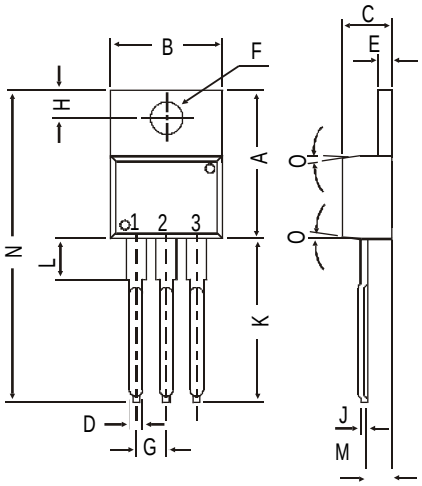
TO-220 Plastic Package

BD533, BD535, BD537
BD534, BD536, BD538

BD533, 535, 537 NPN PLASTIC POWER TRANSISTORS
BD534, 536, 538 PNP PLASTIC POWER TRANSISTORS
Medium Power Linear and Switching Applications

PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR





All diminsions in mm.

DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O	DEG 7	

ABSOLUTE MAXIMUM RATINGS

			533 534	535 536	537 538	
Collector-base voltage (open emitter)	V_{CBO}	*max.*	*45*	*60*	*80*	*V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*45*	*60*	*80*	*V*
Collector and emitter current	I_C, I_E	*max.*		*8.0*		*A*
Total power dissipation up to T_C = 25°C	P_{tot}	*max.*		*50*		*W*
Junction temperature	T_j	*max.*		*150*		*°C*
Collector-emitter saturation voltage						
I_C = 2 A; I_B = 0.2 A	V_{CEsat}	*max.*		*0.8*		*V*
D.C. current gain						
I_C = 10 mA; V_{CE} = 5 V	h_{FE}	*min.*	*20*	*20*	*15*	

RATINGS *(at T_A=25°C unless otherwise specified)*

			533 534	535 536	537 538	
Collector-base voltage (open emitter)	V_{CBO}	*max.*	*45*	*60*	*80*	*V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*45*	*60*	*80*	*V*
Collector-emitter voltage (V_{BE} = 0)	VCES	*max.*	*45*	*60*	*80*	*V*
Emitter-base voltage (open collector)	V_{EBO}	*max.*		*5.0*		*V*
Collector and emitter current	I_C, I_E	*max.*		*8.0*		*A*

Base current	I_B	*max.*		*1.0*		*A*
Total power dissipation up to T_C *= 25°C*	P_{tot}	*max.*		*50*		*W*
Junction temperature	T_j	*max.*		*150*		*°C*
Storage temperature	T_{stg}			*–65 to +150*		*°C*

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$			*2.5*		*°C/W*
From junction to ambient	$R_{th\ j-a}$			*70*		*°C/W*

CHARACTERISTICS

T_{amb} *= 25°C unless otherwise specified*			***533*** ***534***	***535*** ***536***	***537*** ***538***	
Collector cutoff current						
I_E *= 0;* V_{CB} *= 45 V*	I_{CBO}	*max.*	*100*	*–*	*–*	*µA*
I_E *= 0;* V_{CB} *= 60 V*	I_{CBO}	*max.*	*–*	*100*	*–*	*µA*
I_E *= 0;* V_{CB} *= 80 V*	I_{CBO}	*max.*	*–*	*–*	*100*	*µA*
V_{BE} *= 0;* V_{CE} *= 45V*	I_{CES}	*max.*	*100*	*–*	*–*	*µA*
V_{BE} *= 0;* V_{CE} *= 60V*	I_{CES}	*max.*	*–*	*100*	*–*	*µA*
V_{BE} *= 0;* V_{CE} *= 80V*	I_{CES}	*max.*	*–*	*–*	*100*	*µA*
Emitter cut-off current						
I_C *= 0;* V_{EB} *= 5 V*	I_{EBO}	*max.*		*1.0*		*mA*
Breakdown voltages						
I_C *= 100 mA;* I_B *= 0*	$V_{CEO(sus)}$*	*min.*	*45*	*60*	*80*	*V*
I_C *= 1 mA;* I_E *= 0*	V_{CBO}	*min.*	*45*	*60*	*100*	*V*
I_E *= 1 mA;* I_C *= 0*	V_{EBO}	*min.*		*5.0*		*V*
Saturation voltages						
I_C *= 2.0 A;* I_B *= 0.2 A*	V_{CEsat}*	*max.*		*0.8*		*V*
I_C *= 6.0 A;* I_B *= 0.6 A*	V_{CEsat}*	*typ.*		*0.8*		*V*
Base-emitter on voltage						
I_C *= 2A;* V_{CE} *= 2V*	$V_{BE(on)}$*	*max.*		*1.5*		*V*
D.C. current gain						
I_C *= 10mA;* V_{CE} *= 5V*	h_{FE}*	*min.*	*20*	*20*	*15*	
I_C *= 500mA;* V_{CE} *= 2V*	h_{FE}*	*min.*		*40*		
I_C *= 2A;* V_{CE} *= 2V*	h_{FE}*	*min.*	*25*	*25*	*15*	
Transition frequency						
I_C *= 500 mA;* V_{CE} *= 1V*	f_T	*min.*		*3.0*		*MHz*
h_{FE} Groups:						
I_C = 2A; V_{CE} = 2V	***J***	***min.***		***30***		
		max.		***75***		
I_C = 3A; V_{CE} = 2V		***min.***		***15***		
I_C = 2A; V_{CE} = 2V	***K***	***min.***		***40***		
		max.		***100***		
I_C = 3A; V_{CE} = 2V		***min.***		***20***		

** Pulsed: pulse duration = 300 µs; duty cycle = 1.5%.*

Notes

Disclaimer

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