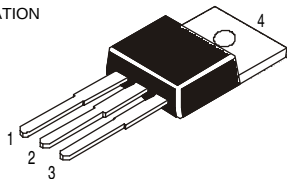
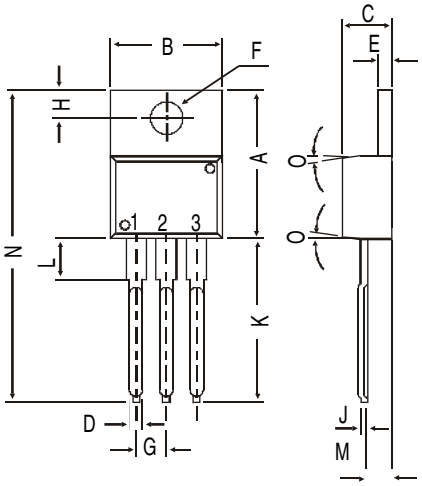
TO-220 Plastic Package

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***	***535***	***537***	
			534	***536***	***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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