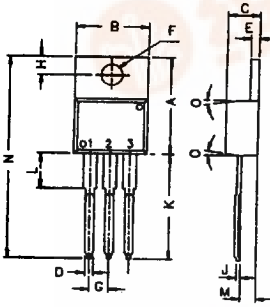
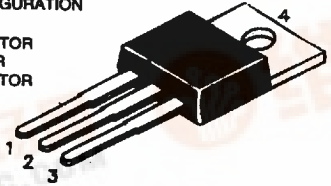


BD201, BD203, BDX77 NPN PLASTIC POWER TRANSISTORS
Complementary BD202, BD204 and BDX78
Medium Power Switching and Amplifier Applications

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



ALL DIMENSIONS ARE IN M.M.

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	-	0,58
K	12,70	14,73
L	-	6,35
M	2,03	2,92
N	-	31,24
O	7	DEG

ABSOLUTE MAXIMUM RATINGS

		201	203	BDX77	
Collector-base voltage (open emitter)	V_{CBO}	max. 60	60	100	V
Collector-emitter voltage (open base)	V_{CEO}	max. 45	60	80	V
Collector current (DC)	I_C	max. 8.0	8.0		A
Total power dissipation up to $T_{mb} = 25^\circ\text{C}$	P_{tot}	max. 60	60		W
Junction temperature	T_j	max. 150			$^\circ\text{C}$
Collector-emitter saturation voltage	V_{CEsat}	max. 1.0			V
$I_C = 3 \text{ A}; I_B = 0.3 \text{ A}$					
D.C. current gain	h_{FE}	min. -	-	30	
$I_C = 1 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}	min. -	30	-	
$I_C = 2 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}	min. 30	-	-	
$I_C = 3 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}	min. 30	-	-	

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values		201	203	BDX77	
Collector-base voltage (open emitter)	V_{CBO}	max. 60	60	100	V
Collector-emitter voltage (open base)	V_{CEO}	max. 45	60	80	V
Emitter-base voltage (open collector)	V_{EBO}	max. 5.0			V
Collector current (DC)	I_C	max. 8.0			A

Collector current (peak $t_p = 10$ ms)	I_{CM}	max.	12	A
Collector current (non-repetitive peak $t_p = 2$ ms)	I_{CSM}	max.	25	A
Base current	I_B	max.	3.0	A
Total power dissipation up to $T_{mb} = 25^\circ\text{C}$	P_{tot}	max.	60	W
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$		70	K/W
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CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

			201	203	BDX77	
Collector cutoff current	I_{CEO}	max.		0.2		mA
$I_B = 0; V_{CE} = 30$ V	I_{CBO}	max.		1.0		mA
$I_B = 0; V_{CB} = 40$ V; $T_j = 150^\circ\text{C}$						
Emitter cut-off current	I_{EBO}	max.		0.5		mA
$I_C = 0; V_{EB} = 5$ V						
Breakdown voltages	V_{CEO}	min.	45	60	80	V
$I_C = 0.2$ A; $I_B = 0$	V_{CBO}	min.	60	60	100	V
$I_C = 1$ mA; $I_E = 0$	V_{EBO}	min.		5.0		V
$I_E = 1$ mA; $I_C = 0$						
Saturation voltages	V_{CEsat}^*	max.		1.0		V
$I_C = 3$ A; $I_B = 0.3$ A	V_{CEsat}^*	max.		1.5		V
$I_C = 6$ A; $I_B = 0.6$ A	V_{BEsat}^*	max.		2.0		V
Base-emitter on voltage	$V_{BE(on)}^*$	max.		1.5		V
$I_C = 3$ A; $V_{CE} = 2$ V						
D.C. current gain	h_{FE}^*	min.	-	-	30	
$I_C = 1$ A; $V_{CE} = 2$ V	h_{FE}^*	min.	-	30	-	
$I_C = 2$ A; $V_{CE} = 2$ V	h_{FE}^*	min.	30	-	-	
$I_C = 3$ A; $V_{CE} = 2$ V						
Common emitter small	f_{hfe}	min.		25		KHz
$I_C = 0.3$ A; $V_{CE} = 3$ V						
Transition frequency	f_T	min.		7.0		MHz
$I_C = 0.3$ A; $V_{CE} = 3$ V; $f = 1$ MHz						
Second breakdown collector current with base forward biased (non-repetitive)	$I_{S/b}$	min.		1.5		A
$V_{CE} = 40$ V; $t_p = 0.1$ s						
Switching time	t_{on}	max.		1.0		μs
$I_{Con} = 2$ A; $I_{Bon} = -I_{Boff} = 0.2$ A	t_{off}	max.		4.0		μs
Turn on time						
Turn off time						

* Pulse test: $t_p \leq 300$ μs ; duty cycle $\leq 2\%$