



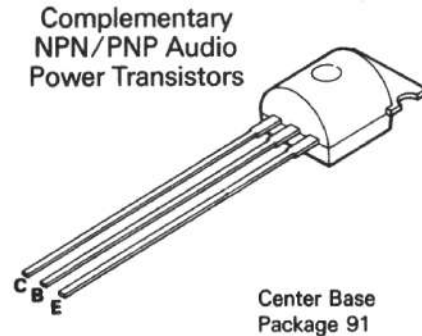
DURAWATT™ 92-PLUS

PNP BD 370 A thru BD 370 D
NPN BD 371 A thru BD 371 D

Complementary plastic power transistors employing double diffused planar structures and constructed with National's revolutionary „Epoxy B Concept" for exceptional reliability.

features

- **High V_{CE} ratings:**
BD 370 A, BD 371 A – 45 V min. V_{CEO}
BD 370 B, BD 371 B – 60 V min. V_{CEO}
BD 370 C, BD 371 C – 80 V min. V_{CEO}
BD 370 D, BD 371 D – 100 V min. V_{CEO}
- **Exceptional power dissipation capability:**
 $P_{TOTP} = 1.2 \text{ Watts @ } T_A = 25^\circ\text{C}$



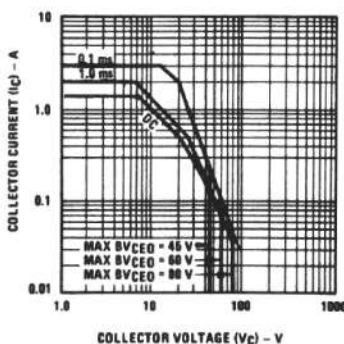
maximum ratings

Parameter	Symbol	BD 370 A BD 371 A	BD 370 B BD 371 B	BD 370 C BD 371 C	BD 370 D BD 371 D	Units
Collector-Emitter Voltage	V_{CEO}	45	60	80	100	V_{DC}
Collector-Base Voltage	V_{CB}	45	60	80	100	V_{DC}
Emitter-Base Voltage	V_{EB}			5		V_{DC}
Collector Current (cont.)	I_C			1,5		A_{DC}
Collector Current	I_{CM}			2		A_{DC}
Power Dissipation ($T_A = 25^{\circ}C$)	P_{TOT}			0,75		W
($T_C = 25^{\circ}C$)				2,5		W
Practical Power Dissipation*	P_{TOTP}			1,2		W
Temperature	T_j, T_{stg}			-55 to +150		$^{\circ}C$
Thermal Resistance	θ_{JA}			167		$^{\circ}C/W$
	θ_{JC}			50		$^{\circ}C/W$

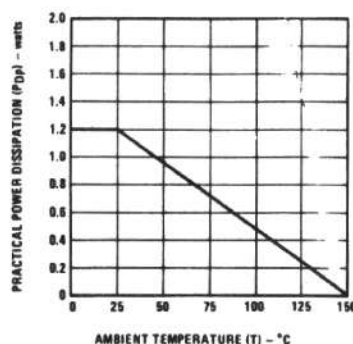
* Practical Power Dissipation (i.e., that power which can be dissipated with the device installed in a typical manner on a printed circuit board with total copper run area equal to 1 sq. in. minimum).

typical performance characteristics

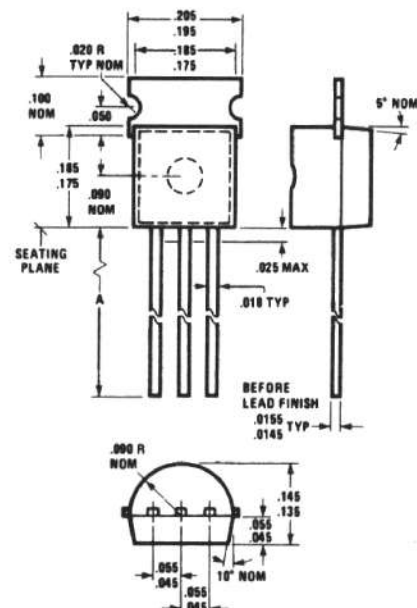
Safe Operating Area Curve



Thermal Derating Curve



physical dimensions



electrical characteristics ($T_A = +25^\circ\text{C}$)

Parameter	Symbol	Min.	Max.	Units
Collector-Emitter Sustaining Voltage	BV_{CEO}			
$I_C = 10\text{ mA}, I_B = 0$ BD 370 A BD 371 A		45		V
BD 370 B BD 371 B		60		V
BD 370 C BD 371 C		80		V
BD 370 D BD 371 D		100		V
Collector Cutoff Current	I_{CBO}			
$V_{CB} = 45\text{ V}, I_E = 0$			0.1	μA
$V_{CB} = 60\text{ V}, I_E = 0$			0.1	μA
$V_{CB} = 80\text{ V}, I_E = 0$			0.1	μA
$V_{CB} = 100\text{ V}, I_E = 0$			0.1	μA
Emitter Cutoff Current	I_{EBO}			
$I_C = 0, V_{EB} = 5.0\text{ V}$			100	nA
DC Current Gain	h_{FE}			
$I_C = 100\text{ mA}, V_{CE} = 1\text{ V}$ (Note 1)		40	400	
$I_C = 500\text{ mA}, V_{CE} = 2\text{ V}$		25		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			
$I_C = 1000\text{ mA}, I_B = 100\text{ mA}$			0.7	V
Base-Emitter ON Voltage	$V_{BE(on)}$			
$I_C = 1000\text{ mA}, V_{CE} = 1\text{ V}$			1.2	V
Current Gain Bandwidth Product	f_T			
$I_C = 200\text{ mA}, V_{CE} = 5\text{ V}, f = 100\text{ MHz}$		50		MHz
Output Capacitance	C_{ob}			
$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$			30	pF
Note 1: h_{FE} -Groups				
	- 6	40	100	*)
	- 10	63	160	
	- 16	100	250	**)
	- 25	160	400	***)

*) NOT BD 370 A / BD 371 A and BD 370 B / BD 371 B

**) NOT BD 370 D / BD 371 D

***) NOT BD 370 C / BD 371 C and BD 370 D / BD 371 D