

BDX34, BDX34A, BDX34B, BDX34C, BDX34D

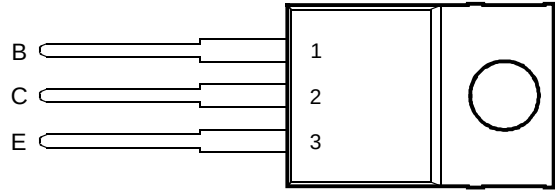
Transistor de puissance PNP darlington

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AUGUST 1993 - REVISED MARCH 1997

- Transistor complémentaire conçu pour être utilisé avec BDX33, BDX33A, BDX33B, BDX33C and BDX33D
- 70 W à 25°C Température du boîtier
- 10 A Courant continu de collecteur
- Minimum h_{FE} of 750 at 3 V, 3 A

Boîtier TO-220
Vue de dessus



La broche 2 est en contact avec le boîtier

MDTRACA

Valeurs limites absolues à une température boîtier de 25°C

Paramètres		Symbole	Valeur	Unité
Tension Collector-base ($I_E = 0$)	BDX34	V_{CBO}	-45	V
	BDX34A		-60	
	BDX34B		-80	
	BDX34C		-100	
	BDX34D		-120	
Tension Collector-emetteur ($I_B = 0$)	BDX34	V_{CEO}	-45	V
	BDX34A		-60	
	BDX34B		-80	
	BDX34C		-100	
	BDX34D		-120	
Tension Emetteur-base		V_{EBO}	-5	V
Courant de collecteur en continu		I_C	-10	A
Courant de base en continu		I_B	-0.3	A
Continuous device dissipation at (or below) 25°C case temperature (see Note 1)		P_{tot}	70	W
Continuous device dissipation at (or below) 25°C free air temperature (see Note 2)		P_{tot}	2	W
Température de fonctionnement à l'air libre		T_J	-65 to +150	°C
Température de stockage		T_{stg}	-65 to +150	°C
Température de fonctionnement à l'air libre		T_A	-65 to +150	°C

NOTES: 1. Derate linearly to 150°C case temperature at the rate of 0.56 W/°C.
2. Derate linearly to 150°C free air temperature at the rate of 16 mW/°C.

PRODUCT INFORMATION

Information is current as of publication date. Products conform to specifications in accordance with the terms of Power Innovations standard warranty. Production processing does not necessarily include testing of all parameters.



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Caractéristiques électriques avec le boîtier à 25°C (sauf indication)

Paramètres	Conditions			MIN	TYP	MAX	UNITE
$V_{(BR)CEO}$ Tension de claquage Collecteur-emetteur	$I_C = -100 \text{ mA}$	$I_B = 0$	(Voir Note 3)	BDX34 BDX34A BDX34B BDX34C BDX34D	-45 -60 -80 -100 -120		V
I_{CEO} Courant de bloquage Collecteur-emetteur	$V_{CE} = -30 \text{ V}$ $V_{CE} = -30 \text{ V}$ $V_{CE} = -40 \text{ V}$ $V_{CE} = -50 \text{ V}$ $V_{CE} = -60 \text{ V}$ $V_{CE} = -30 \text{ V}$ $V_{CE} = -30 \text{ V}$ $V_{CE} = -40 \text{ V}$ $V_{CE} = -50 \text{ V}$ $V_{CE} = -60 \text{ V}$	$I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$	$T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$	BDX34 BDX34A BDX34B BDX34C BDX34D BDX34 BDX34A BDX34B BDX34C BDX34D		-0.5 -0.5 -0.5 -0.5 -0.5 -10 -10 -10 -10 -10	mA
I_{CBO} Courant de bloquage au collecteur	$V_{CB} = -45 \text{ V}$ $V_{CB} = -60 \text{ V}$ $V_{CB} = -80 \text{ V}$ $V_{CB} = -100 \text{ V}$ $V_{CB} = -120 \text{ V}$ $V_{CB} = -45 \text{ V}$ $V_{CB} = -60 \text{ V}$ $V_{CB} = -80 \text{ V}$ $V_{CB} = -100 \text{ V}$ $V_{CB} = -120 \text{ V}$	$I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$	$T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$	BDX34 BDX34A BDX34B BDX34C BDX34D BDX34 BDX34A BDX34B BDX34C BDX34D		-1 -1 -1 -1 -1 -5 -5 -5 -5 -5	mA
I_{EBO} Courant de bloquage à l'émetteur	$V_{EB} = -5 \text{ V}$	$I_C = 0$				-10	mA
h_{FE} Gain en courant	$V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$	$I_C = -4 \text{ A}$ $I_C = -4 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$	(Voir Notes 3 et 4)	BDX34 BDX34A BDX34B BDX34C BDX34D	750 750 750 750 750		
$V_{BE(on)}$ Tension Base-emitter	$V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$	$I_C = -4 \text{ A}$ $I_C = -4 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$	(Voir Notes 3 et 4)	BDX34 BDX34A BDX34B BDX34C BDX34D		-2.5 -2.5 -2.5 -2.5 -2.5	V
$V_{CE(sat)}$ Tension de saturation Collecteur-emetteur	$I_B = -8 \text{ mA}$ $I_B = -8 \text{ mA}$ $I_B = -6 \text{ mA}$ $I_B = -6 \text{ mA}$ $I_B = -6 \text{ mA}$	$I_C = -4 \text{ A}$ $I_C = -4 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$ $I_C = -3 \text{ A}$	(Voir Notes 3 et 4)	BDX34 BDX34A BDX34B BDX34C BDX34D		-2.5 -2.5 -2.5 -2.5 -2.5	V
V_{EC} Courant direct dans la diode parallèle	$I_E = -8 \text{ A}$	$I_B = 0$				-4	V

NOTES: 3. Ces paramètres sont obtenus en utilisant des impulsions, $t_p = 300 \mu\text{s}$, rapport cyclique $\leq 2\%$.

4. These parameters must be measured using voltage-sensing contacts, separate from the current carrying contacts.

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thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			1.78	°C/W
$R_{\theta JA}$	Junction to free air thermal resistance			62.5	°C/W

resistive-load-switching characteristics at 25°C case temperature

PARAMETER	TEST CONDITIONS [†]			MIN	TYP	MAX	UNIT
t_{on} Turn-on time	$I_C = -3\text{ A}$	$I_{B(on)} = -12\text{ mA}$	$I_{B(off)} = 12\text{ mA}$		1		μs
t_{off} Turn-off time	$V_{BE(off)} = 3.5\text{ V}$	$R_L = 10\ \Omega$	$t_p = 20\ \mu\text{s}$, $dc \leq 2\%$		5		μs

[†] Voltage and current values shown are nominal; exact values vary slightly with transistor parameters.

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TYPICAL CHARACTERISTICS

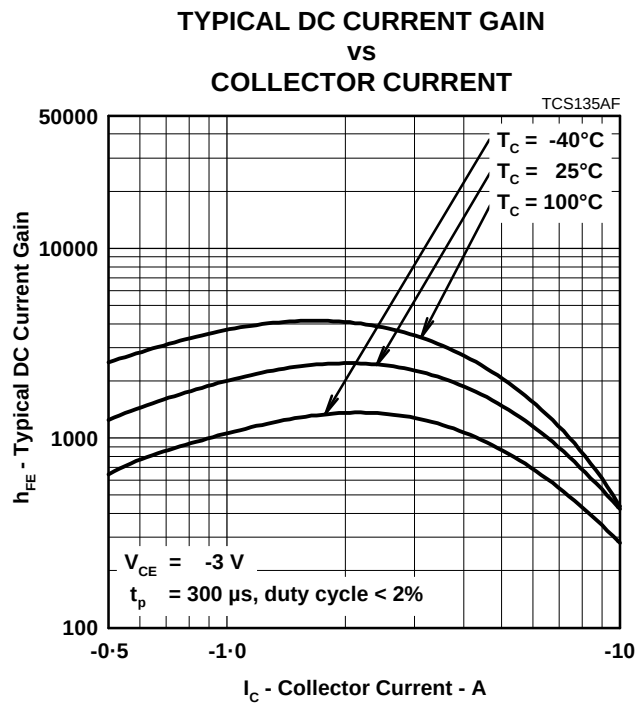


Figure 1.

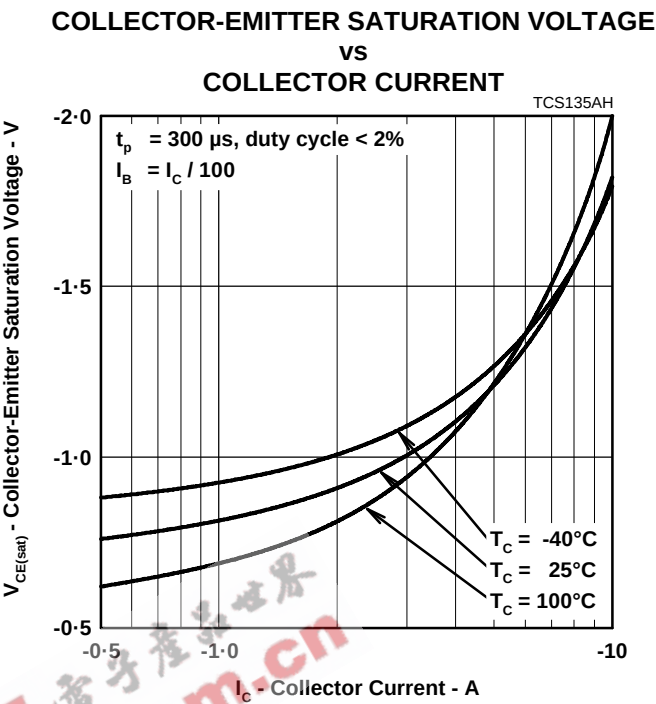


Figure 2.

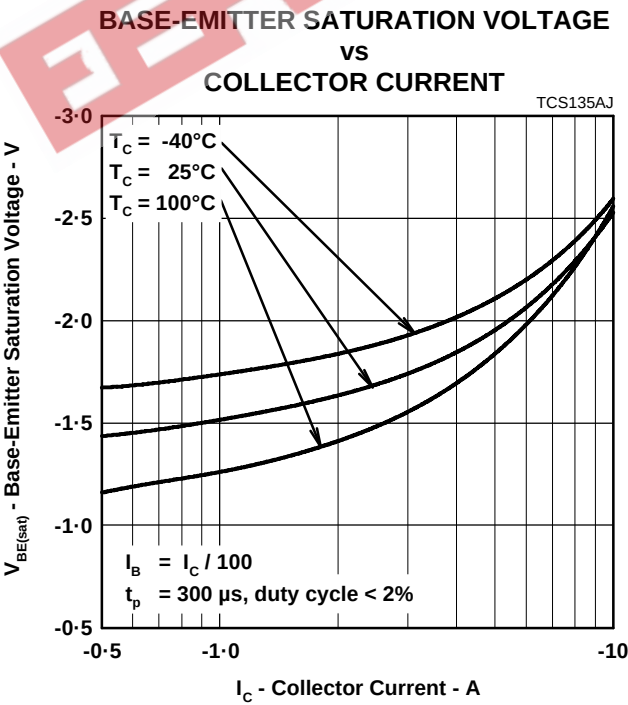


Figure 3.

PRODUCT INFORMATION

THERMAL INFORMATION

MAXIMUM POWER DISSIPATION VS CASE TEMPERATURE

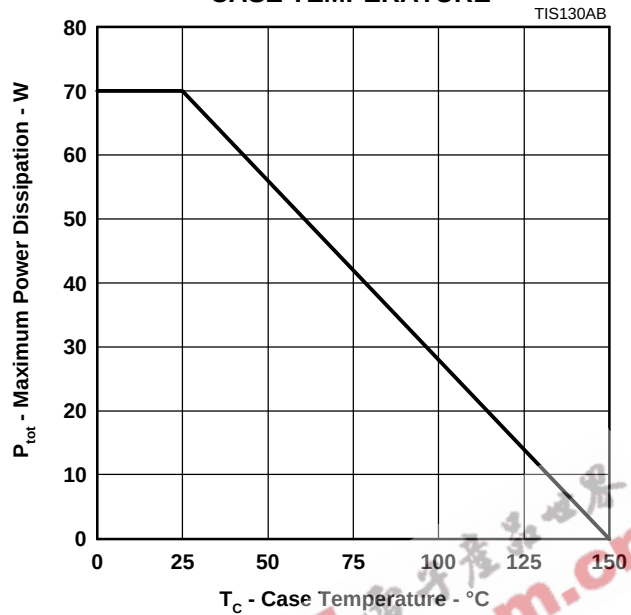


Figure 4.

BDX34, BDX34A, BDX34B, BDX34C, BDX34D PNP SILICON POWER DARLINGTONS

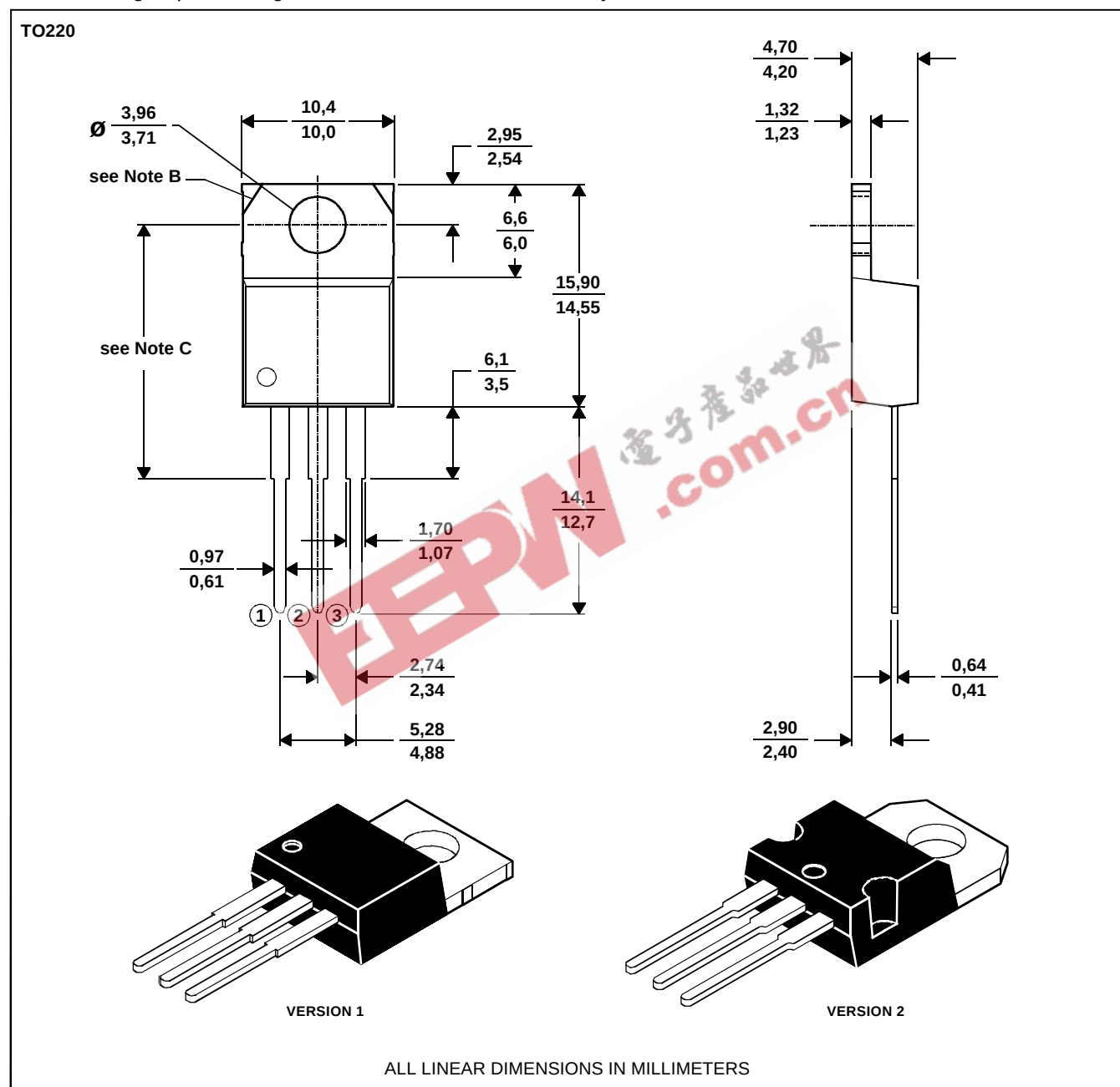
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MECHANICAL DATA

TO-220

3-pin plastic flange-mount package

This single-in-line package consists of a circuit mounted on a lead frame and encapsulated within a plastic compound. The compound will withstand soldering temperature with no deformation, and circuit performance characteristics will remain stable when operated in high humidity conditions. Leads require no additional cleaning or processing when used in soldered assembly.



- NOTES: A. The centre pin is in electrical contact with the mounting tab.
B. Mounting tab corner profile according to package version.
C. Typical fixing hole centre stand off height according to package version.
Version 1, 18.0 mm. Version 2, 17.6 mm.

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PRODUCT INFORMATION

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