

electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER	TEST CONDITIONS		MIN	TYP	MAX	UNIT
$V_{(BR)CEO}$ Collector-emitter breakdown voltage	$I_C = -100 \text{ mA}$	$I_B = 0$ (see Note 3)	BDX34	-45		V
			BDX34A	-60		
			BDX34B	-80		
			BDX34C	-100		
			BDX34D	-120		
I_{CEO} Collector-emitter cut-off current	$V_{CE} = -30 \text{ V}$	$I_B = 0$	BDX34		-0.5	mA
			BDX34A		-0.5	
			BDX34B		-0.5	
			BDX34C		-0.5	
			BDX34D		-0.5	
			BDX34	$T_C = 100^\circ\text{C}$	-10	
			BDX34A	$T_C = 100^\circ\text{C}$	-10	
			BDX34B	$T_C = 100^\circ\text{C}$	-10	
			BDX34C	$T_C = 100^\circ\text{C}$	-10	
			BDX34D	$T_C = 100^\circ\text{C}$	-10	
I_{CBO} Collector cut-off current	$V_{CB} = -45 \text{ V}$	$I_E = 0$	BDX34		-1	mA
			BDX34A		-1	
			BDX34B		-1	
			BDX34C		-1	
			BDX34D		-1	
			BDX34	$T_C = 100^\circ\text{C}$	-5	
			BDX34A	$T_C = 100^\circ\text{C}$	-5	
			BDX34B	$T_C = 100^\circ\text{C}$	-5	
			BDX34C	$T_C = 100^\circ\text{C}$	-5	
			BDX34D	$T_C = 100^\circ\text{C}$	-5	
I_{EBO} Emitter cut-off current	$V_{EB} = -5 \text{ V}$	$I_C = 0$			-10	mA
h_{FE} Forward current transfer ratio	$V_{CE} = -3 \text{ V}$	$I_C = -4 \text{ A}$	BDX34	750		
			BDX34A	750		
			BDX34B	750	(see Notes 3 and 4)	
			BDX34C	750		
			BDX34D	750		
$V_{BE(on)}$ Base-emitter voltage	$V_{CE} = -3 \text{ V}$	$I_C = -4 \text{ A}$	BDX34		-2.5	V
			BDX34A		-2.5	
			BDX34B	(see Notes 3 and 4)	-2.5	
			BDX34C		-2.5	
			BDX34D		-2.5	
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_B = -8 \text{ mA}$	$I_C = -4 \text{ A}$	BDX34		-2.5	V
			BDX34A		-2.5	
			BDX34B	(see Notes 3 and 4)	-2.5	
			BDX34C		-2.5	
			BDX34D		-2.5	
V_{EC} Parallel diode forward voltage	$I_E = -8 \text{ A}$	$I_B = 0$			-4	V

NOTES: 3. These parameters must be measured using pulse techniques, $t_p = 300 \mu\text{s}$, duty cycle $\leq 2\%$.

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

PRODUCT INFORMATION



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	$I_C = -3$ A	$I_{B(on)} = -12$ mA	$I_{B(off)} = 12$ mA		1		μs
t_{off} Turn-off time	$V_{BE(off)} = 3.5$ V	$R_L = 10$ Ω	$t_p = 20$ μs, dc ≤ 2%		5		μs

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

PRODUCT INFORMATION

AUGUST 1993 - REVISED SEPTEMBER 2002
Specifications are subject to change without notice.

TYPICAL CHARACTERISTICS

TYPICAL DC CURRENT GAIN
VS
COLLECTOR CURRENT

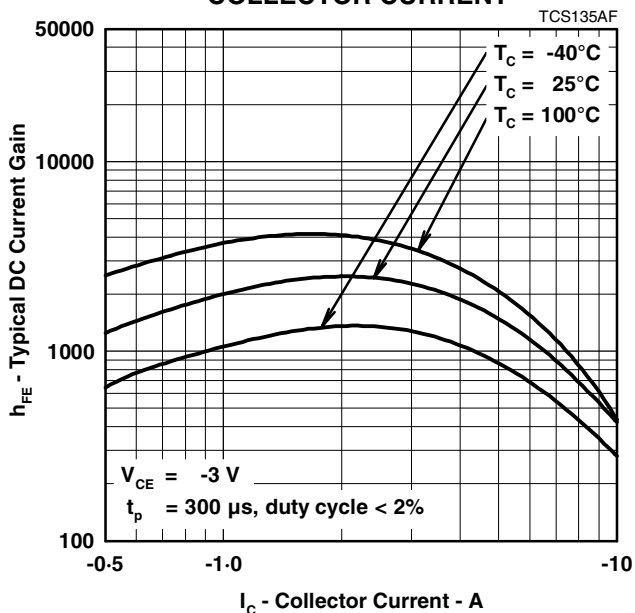


Figure 1.

COLLECTOR-EMITTER SATURATION VOLTAGE
VS
COLLECTOR CURRENT

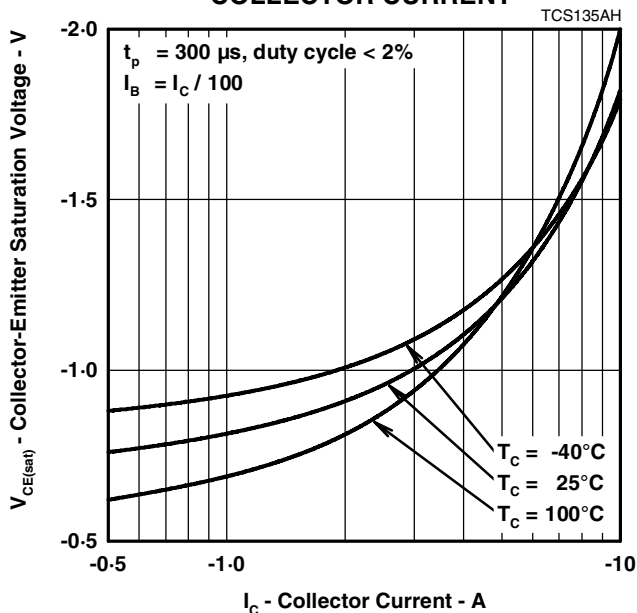


Figure 2.

BASE-EMITTER SATURATION VOLTAGE
VS
COLLECTOR CURRENT

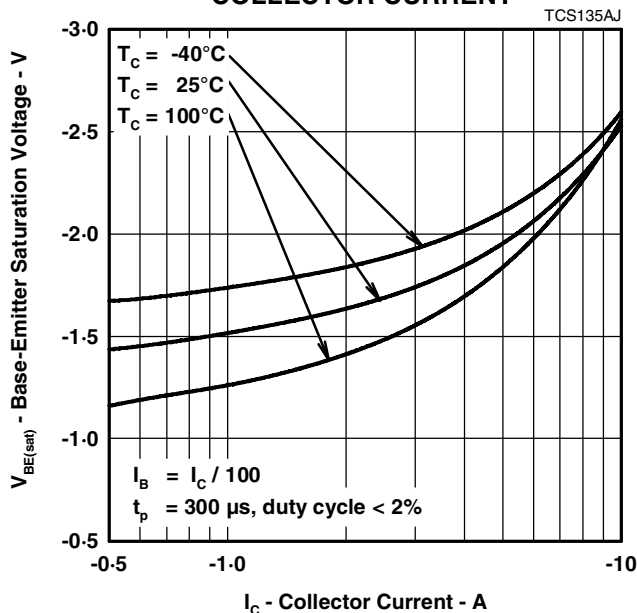


Figure 3.

PRODUCT INFORMATION

THERMAL INFORMATION

**MAXIMUM POWER DISSIPATION
vs
CASE TEMPERATURE**

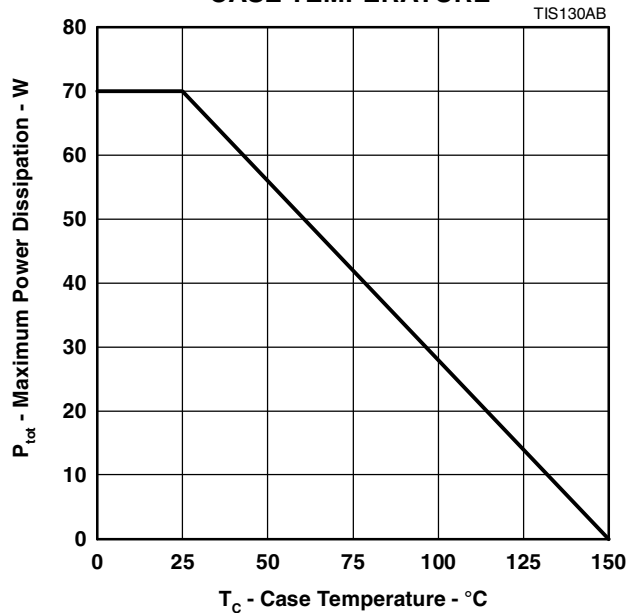


Figure 4.

PRODUCT INFORMATION

Mouser Electronics

Authorized Distributor

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