

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)	BDW94 BDW94A BDW94B BDW94C	-45 -60 -80 -100		V
I_{CEO} Collector-emitter cut-off current	$V_{CB} = -40 \text{ V}$ $V_{CB} = -60 \text{ V}$ $V_{CB} = -80 \text{ V}$ $V_{CB} = -80 \text{ V}$	$I_B = 0$ $I_B = 0$ $I_B = 0$ $I_B = 0$	BDW94 BDW94A BDW94B BDW94C		-1 -1 -1 -1	mA
I_{CBO} Collector cut-off current	$V_{CB} = -45 \text{ V}$ $V_{CB} = -60 \text{ V}$ $V_{CB} = -80 \text{ V}$ $V_{CB} = -100 \text{ V}$ $V_{CB} = -45 \text{ V}$ $V_{CB} = -60 \text{ V}$ $V_{CB} = -80 \text{ V}$ $V_{CB} = -100 \text{ V}$	$I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$	BDW94 BDW94A BDW94B BDW94C BDW94 BDW94A BDW94B BDW94C		-0.1 -0.1 -0.1 -0.1 -5 -5 -5 -5	mA
I_{EBO} Emitter cut-off current	$V_{EB} = -5 \text{ V}$	$I_C = 0$			-2	mA
h_{FE} Forward current transfer ratio	$V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$ $V_{CE} = -3 \text{ V}$	$I_C = -3 \text{ A}$ $I_C = -10 \text{ A}$ $I_C = -5 \text{ A}$ (see Notes 3 and 4)		1000 100 750	20000	
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_B = -20 \text{ mA}$ $I_B = -100 \text{ mA}$	$I_C = -5 \text{ A}$ $I_C = -10 \text{ A}$ (see Notes 3 and 4)			-2 -3	V
$V_{BE(sat)}$ Base-emitter saturation voltage	$I_B = -20 \text{ mA}$ $I_B = -100 \text{ mA}$	$I_C = -5 \text{ A}$ $I_C = -10 \text{ A}$ (see Notes 3 and 4)			-2.5 -4	V
V_{EC} Parallel diode forward voltage	$I_E = -5 \text{ A}$ $I_E = -10 \text{ A}$	$I_B = 0$ $I_B = 0$			-2 -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.

thermal characteristics

PARAMETER	MIN	TYP	MAX	UNIT
$R_{\theta JC}$ Junction to case thermal resistance			1.56	°C/W
$R_{\theta JA}$ Junction to free air thermal resistance			62.5	°C/W

TYPICAL CHARACTERISTICS

**TYPICAL DC CURRENT GAIN
VS
COLLECTOR CURRENT**

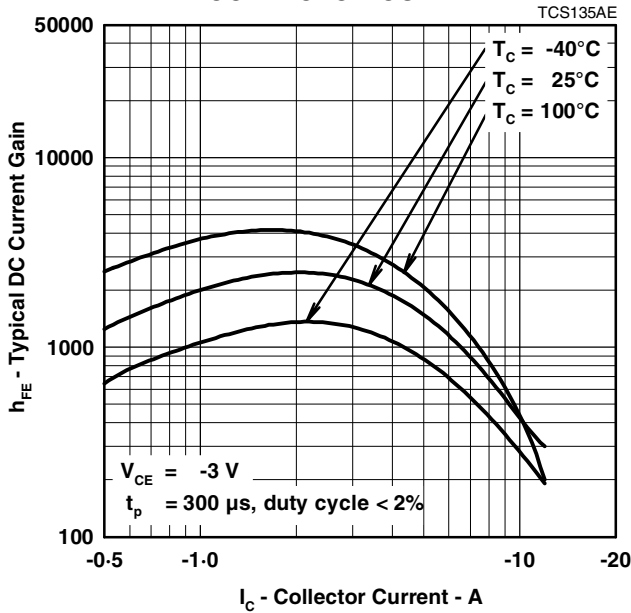


Figure 1.

**COLLECTOR-EMITTER SATURATION VOLTAGE
VS
COLLECTOR CURRENT**

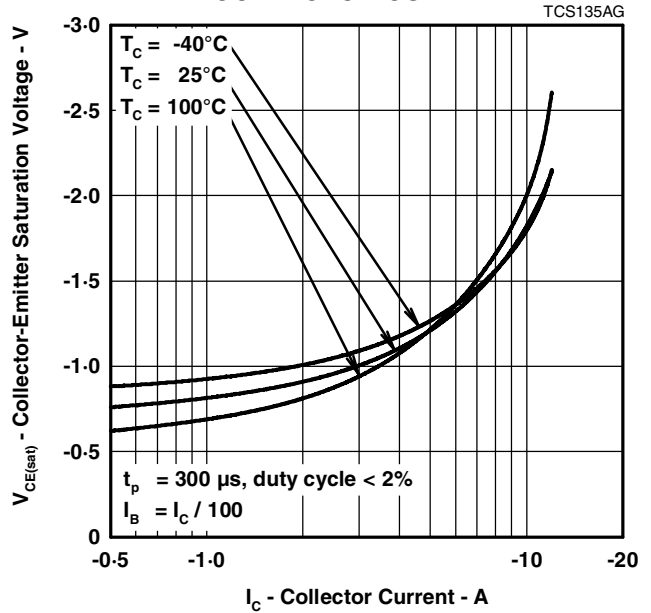


Figure 2.

**BASE-EMITTER SATURATION VOLTAGE
VS
COLLECTOR CURRENT**

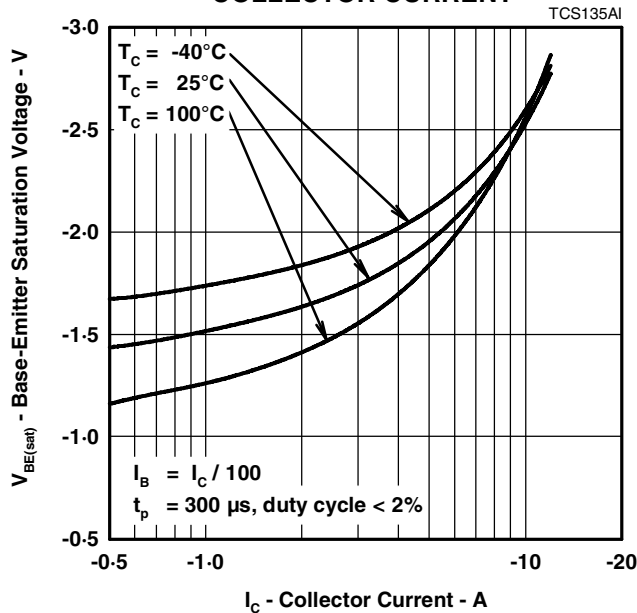


Figure 3.

PRODUCT INFORMATION

THERMAL INFORMATION

**MAXIMUM POWER DISSIPATION
VS
CASE TEMPERATURE**

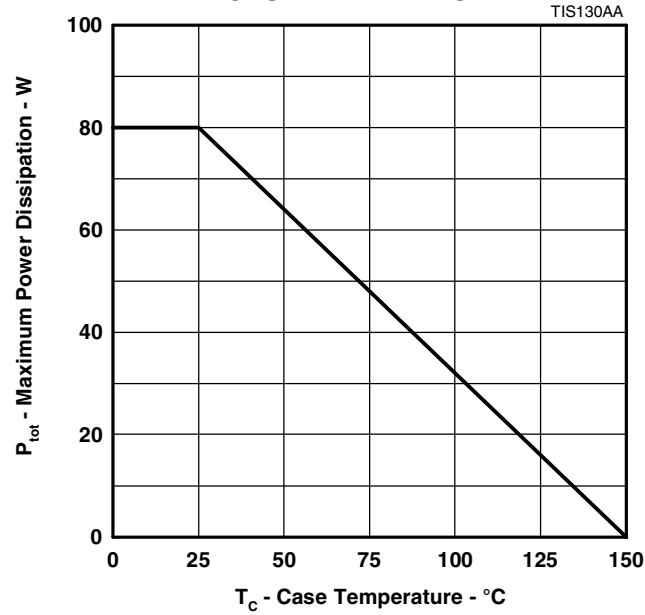


Figure 4.

Mouser Electronics

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