

electrical characteristics at 25°C case temperature

PARAMETER	TEST CONDITIONS				MIN	TYP	MAX	UNIT
$V_{(BR)CEO}$ Collector-emitter breakdown voltage	$I_C = 30 \text{ mA}$	$I_B = 0$	(see Note 5)	TIP130 TIP131 TIP132	60 80 100			V
I_{CEO} Collector-emitter cut-off current	$V_{CE} = 30 \text{ V}$ $V_{CE} = 40 \text{ V}$ $V_{CE} = 50 \text{ V}$	$I_B = 0$ $I_B = 0$ $I_B = 0$		TIP130 TIP131 TIP132			0.5 0.5 0.5	mA
I_{CBO} Collector cut-off current	$V_{CB} = 60 \text{ V}$ $V_{CB} = 80 \text{ V}$ $V_{CB} = 100 \text{ V}$ $V_{CB} = 60 \text{ V}$ $V_{CB} = 80 \text{ V}$ $V_{CB} = 100 \text{ V}$	$I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$ $I_E = 0$	$T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$ $T_C = 100^\circ\text{C}$	TIP130 TIP131 TIP132 TIP130 TIP131 TIP132			0.2 0.2 0.2 1 1 1	mA
I_{EBO} Emitter cut-off current	$V_{EB} = 5 \text{ V}$	$I_C = 0$					5	mA
h_{FE} Forward current transfer ratio	$V_{CE} = 4 \text{ V}$ $V_{CE} = 4 \text{ V}$	$I_C = 1 \text{ A}$ $I_C = 4 \text{ A}$	(see Notes 5 and 6)		500 1000		15000	
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_B = 16 \text{ mA}$ $I_B = 30 \text{ mA}$	$I_C = 4 \text{ A}$ $I_C = 6 \text{ A}$	(see Notes 5 and 6)				2 3	V
V_{BE} Base-emitter voltage	$V_{CE} = 4 \text{ V}$	$I_C = 4 \text{ A}$	(see Notes 5 and 6)				2.5	V
C_{obo} Output capacitance	$V_{CB} = 10 \text{ V}$	$I_E = 0$					200	pF
V_{EC} Parallel diode forward voltage	$I_E = 8 \text{ A}$	$I_B = 0$	(see Notes 5 and 6)				3.5	V

NOTES: 5. These parameters must be measured using pulse techniques, $t_p = 300 \mu\text{s}$, duty cycle $\leq 2\%$.

6. 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			1.78	$^\circ\text{C/W}$
$R_{\theta JA}$ Junction to free air thermal resistance			62.5	$^\circ\text{C/W}$

PRODUCT INFORMATION

JUNE 1973 - REVISED SEPTEMBER 2002

Specifications are subject to change without notice.

TYPICAL CHARACTERISTICS

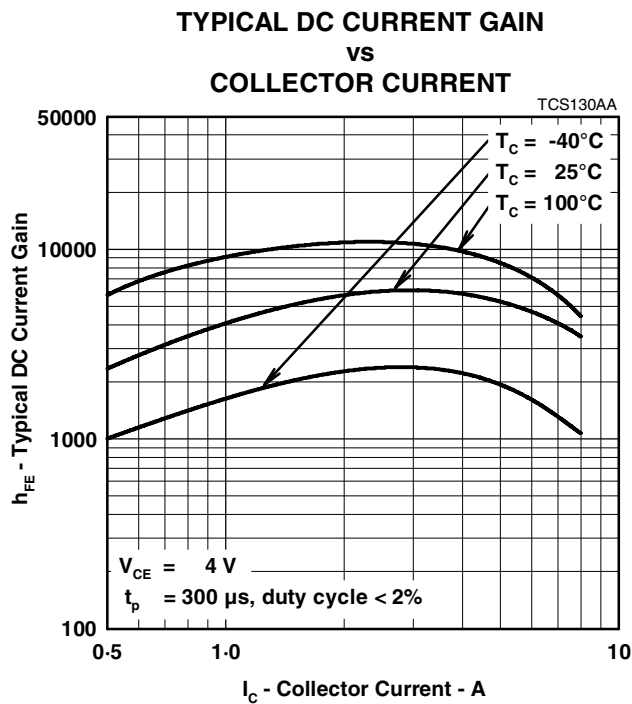


Figure 1.

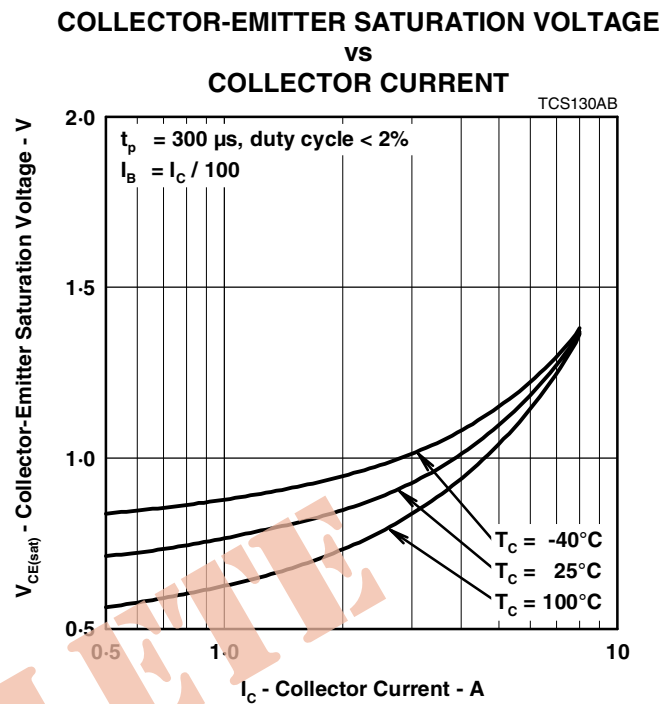


Figure 2.

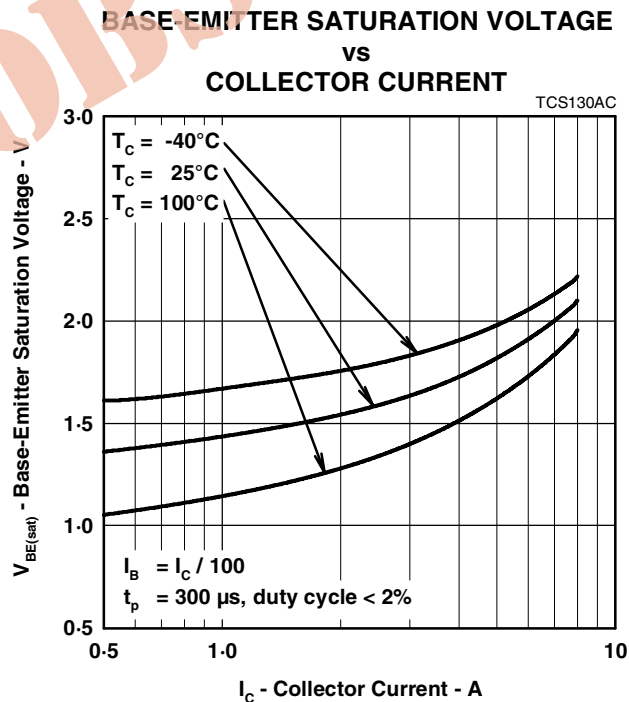


Figure 3.

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MAXIMUM SAFE OPERATING REGIONS

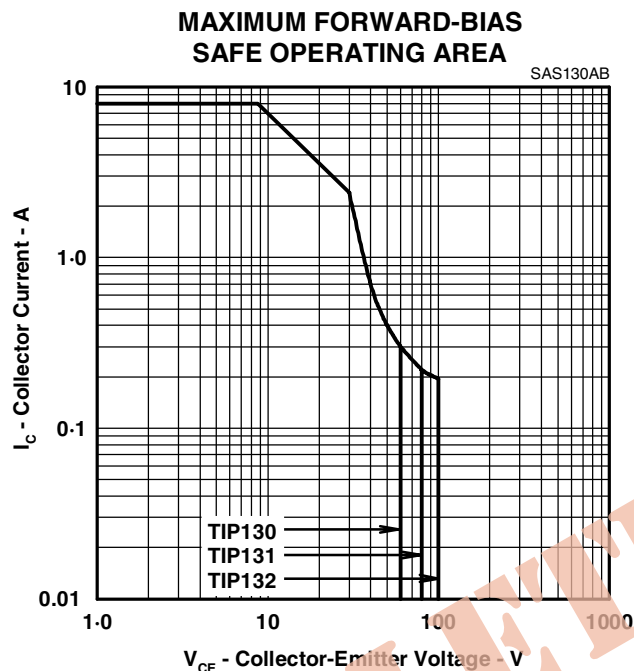


Figure 4.

THERMAL INFORMATION

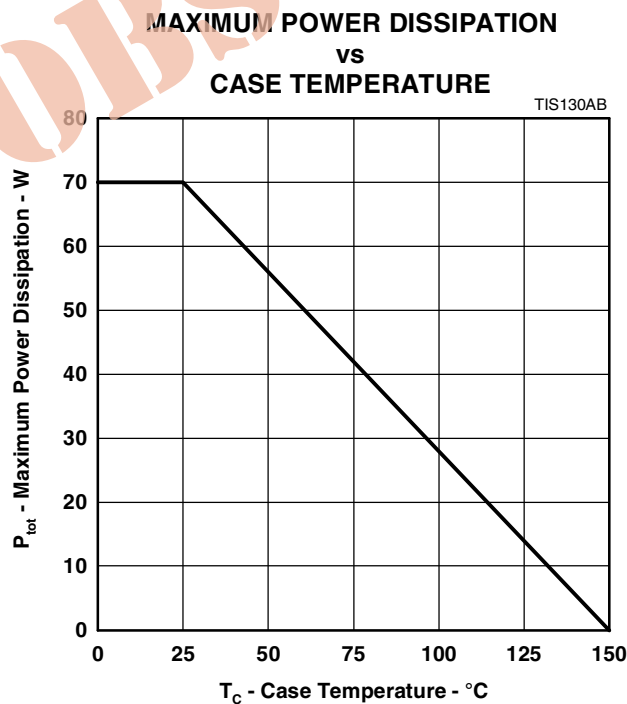


Figure 5.

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