

TIP140 / TIP141 / TIP142 / TIP145 / TIP146 / TIP147

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1	°C/W
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

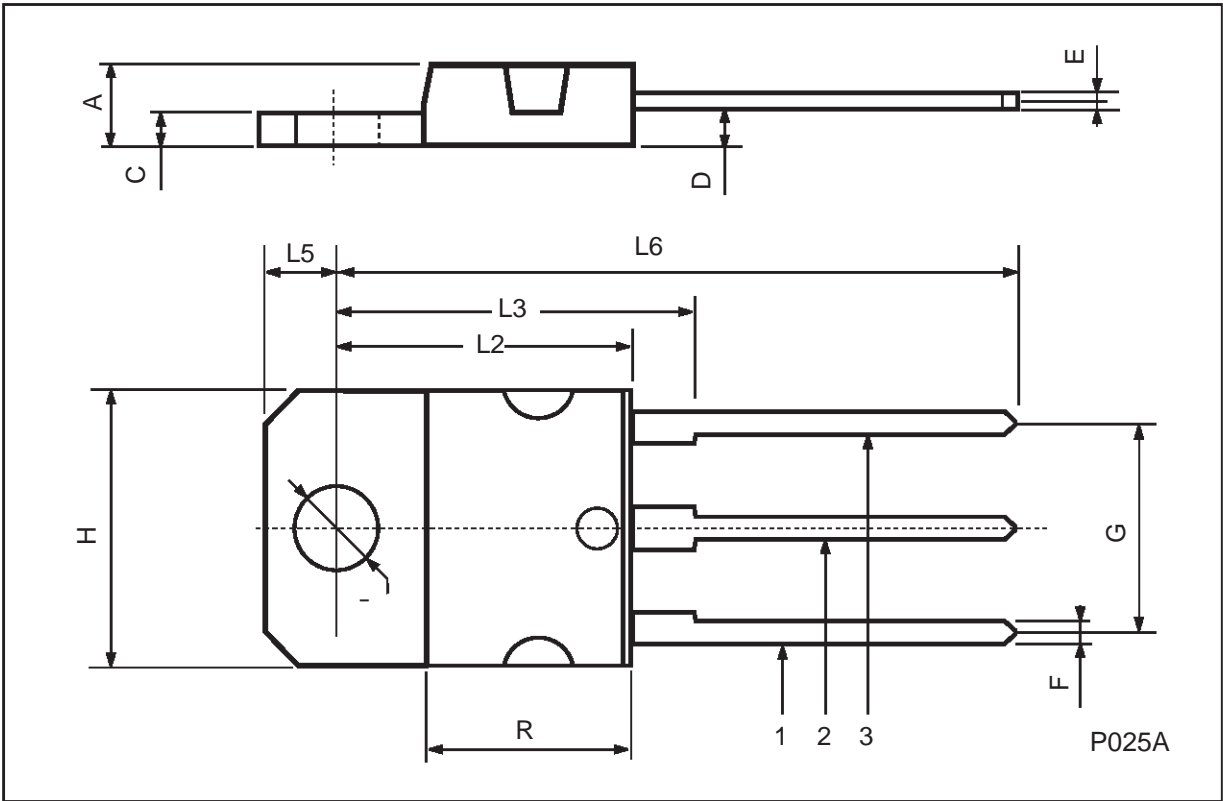
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	for TIP140/145 V _{CB} = 60 V for TIP141/146 V _{CB} = 80 V for TIP142/147 V _{CB} = 100 V			1 1 1	mA mA mA
I _{CEO}	Collector Cut-off Current (I _B = 0)	for TIP140/145 V _{CE} = 30 V for TIP141/146 V _{CE} = 40 V for TIP142/147 V _{CE} = 50 V			2 2 2	mA mA mA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 5 V			2	mA
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 30 mA for TIP140/145 for TIP141/146 for TIP142/147	60 80 100			V V V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 5 A I _B = 10 mA I _C = 10 A I _B = 40 mA			2 3	V V
V _{BE(on)} *	Base-Emitter Voltage	I _C = 10 A V _{CE} = 4 V			3	V
h _{FE} *	DC Current Gain	I _C = 5 A V _{CE} = 4 V I _C = 10 A V _{CE} = 4 V	1000 500			
t _{on} t _{off}	RESISTIVE LOAD Turn-on Time Turn-off Time	I _C = 10 A I _{B1} = 40 mA I _{B2} = -40 mA R _L = 3 Ω		0.9 4		μs μs

For PNP types voltage and current values are negative.

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

TO-218 (SOT-93) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.7		4.9	0.185		0.193
C	1.17		1.37	0.046		0.054
D		2.5			0.098	
E	0.5		0.78	0.019		0.030
F	1.1		1.3	0.043		0.051
G	10.8		11.1	0.425		0.437
H	14.7		15.2	0.578		0.598
L2	–		16.2	–		0.637
L3		18			0.708	
L5	3.95		4.15	0.155		0.163
L6		31			1.220	
R	–		12.2	–		0.480
Ø	4		4.1	0.157		0.161



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