

PNP power Darlington transistor

Features

- Monolithic Darlington configuration
- Integrated antiparallel collector-emitter diode

Application

■ Linear and switching industrial equipment

Description

The TIP145 is an Epitaxial-base PNP power transistor in monolithic Darlington configuration, mounted in TO-247 plastic package. It is intended for use in power linear and switching applications.

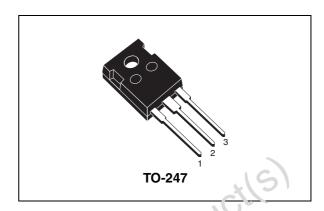


Figure 1. Internal schemetic diagram

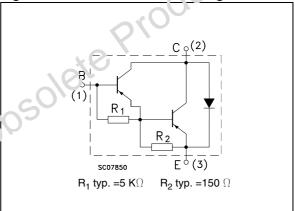


Table 1. Device summary

Order code	Marking	Package	Packaging
T!P1/5	TIP145	TO-247	Tube

1 Absolute maximum ratings

Table 2. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage (I _E = 0)	-60	V
V _{CEO}	Collector-emitter voltage (I _B = 0)	-60	V
V _{EBO}	Emitter-base voltage (I _C = 0)	-5	V
I _C	Collector current	-10	Α
I _{CM}	Collector peak current	-20	Α
Ι _Β	Base current	-0.5	Α
P _{TOT}	Total dissipation at T _{case} = 25°C	125	W
T _{stg}	Storage temperature	-65 to 150	°C
T_J	Max. operating junction temperature	150	°C

Table 3. Thermal data

	Symbol	Parameter	010	Value	Unit
	R _{thj-case}	Thermal resistance junction-case	max	1	°C/W
L	,	10			
		105016			
		0/05			
		16			
		6/(3)			
		411000			
		roduci(s)			
	9				
	, 0)				
Obsole					
-WS					
Oh					

Electrical characteristics 2

(T_{case} = 25°C; unless otherwise specified)

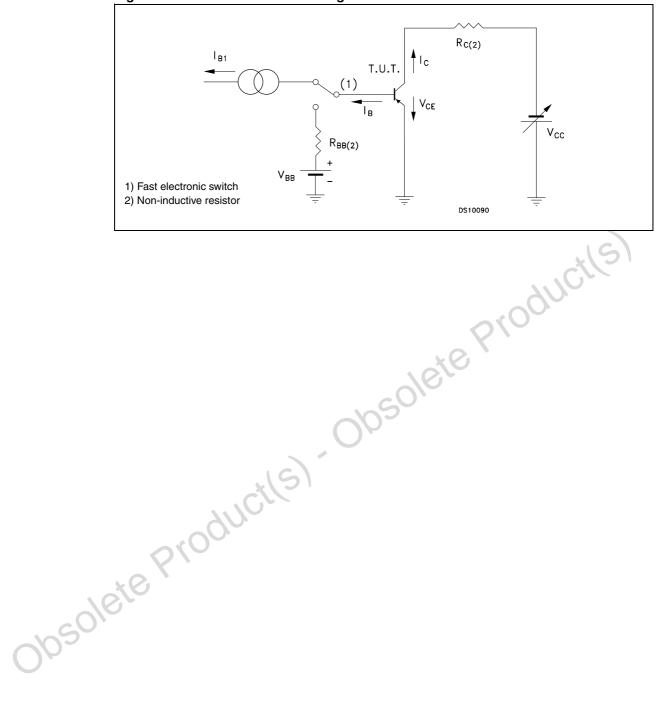
Electrical characteristics Table 4.

^{1.} Pulsed duration = 300 μs, duty cycle ≤1.5%.

Electrical characteristics TIP145

2.1 Test circuit

Figure 2. Resistive load switching test circrcuit



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3 Package mechanical data

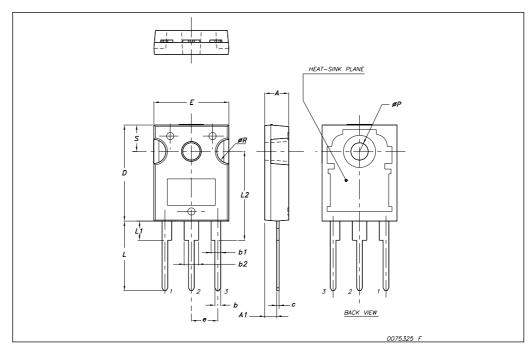
In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a lead-free second level interconnect . The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com

Obsolete Product(s). Obsolete Product(s)

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TO-247	Machan	ical data
10-241	IVIECITALI	iicai uata

Dim.	mm.			
Diiii.	Min.	Тур	Max.	
Α	4.85		5.15	
A1	2.20		2.60	
b	1.0		1.40	
b1	2.0		2.40	
b2	3.0		3.40	
С	0.40		0.80	
D	19.85		20.15	
Е	15.45		15.75	
е		5.45		
L	14.20		14.80	
L1	3.70		4.30	
L2		18.50		
øΡ	3.55		3.65	
øR	4.50		5.50	
S		5.50		



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TIP145 Revision history

4 Revision history

Table 5. Document revision history

Date	Revision	Changes	
19-Oct-2007	1	Initial version	
26-Oct-2007		Minor text changes	
09-Nov-2007	3	Package change from SOT-93 to TO-247, according to: PCN APM-PWR/07/2362.	



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