TIP135-136-137

PNP SILICON DARLINGTON POWER TRANSISTORS

PNP epitaxial-base transistors in a monolithic Dalrington circuit and housed in a TO-220 enveloppe. They are intended for use in power linear and switching applications.
NPN complements are TIP130-131-132
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	Collector-Base Voltage		TIP135	-60	V
			TIP136	-80	
			TIP137	-100	
V_{CEO}	Collector-Emitter Voltage		TIP135	-60	V
			TIP136	-80	
			TIP137	-100	
V_{EBO}	Emitter-Base Voltage		TIP135	-5	V
			TIP136		
			TIP137		
I_C	Collector Current		TIP135	-8	A
			TIP136		
			TIP137		
I_{CM}	Collector Peak Current		TIP135	-12	A
			TIP136		
			TIP137		
I_B	Base Current		TIP135	-300	mA
			TIP136		
			TIP137		
P_T	Power Dissipation	@ T_c < 25°	TIP135	70	W
			TIP136		
			TIP137		
		@ T_a < 25°	TIP135	2	
			TIP136		
			TIP137		
T_J	Junction Temperature		TIP135	150	°C
			TIP136		
			TIP137		
T_S	Storage Temperature range		TIP135	-65 to +150	
			TIP136		
			TIP137		

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THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ\text{-}case}$	From junction-case	1.78	°C/W
$R_{thJ\text{-}amb}$	From junction-ambient	63.5	°C/W

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
I_{CBO}	Collector Cutoff Current	I_E= 0 V_{CB} = -V_{CBO}max	TIP135	-	-	-0.2	mA
			TIP136				
			TIP137				
I_{CEO}	Collector Cutoff Current	I_E= 0 V_{CE} = 1/2 -V_{CEO}max	TIP135	-	-	-0.5	mA
			TIP136				
			TIP137				
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5 V I_C= 0	TIP135	-	-	-5	mA
			TIP136				
			TIP137				
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	I_C= -30 mA I_B= 0	TIP135	-60	-	-	V
			TIP136	-80	-	-	
			TIP137	-100	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= -4 A I_B= -16 mA	TIP135	-	-	-2	V
			TIP136				
			TIP137				
		I_C= -6 A I_B= -30 mA	TIP135	-	-	-3	
			TIP136				
			TIP137				
$V_{BE(on)}$	Base-Emitter Voltage (*)	I_C= -4 A V_{CE}= -4 V	TIP135	-	-	-2.5	V
			TIP136				
			TIP137				
h_{FE}	DC Current Gain (*)	V_{CE}= -4 V I_C= -1 A	TIP135	500	-	-	-
			TIP136				
			TIP137				
		V_{CE}= -4 V I_C= -4 A	TIP135	1000	-	15K	
			TIP136				
			TIP137				
C_{OBO}	Output Capacitance	I_E= 0, V_{CB} = -10 V	TIP135	-	-	200	pF
			TIP136				
			TIP137				

(*) Pulse Width ≈ 300 µs, Duty Cycle ∠ 2.0%

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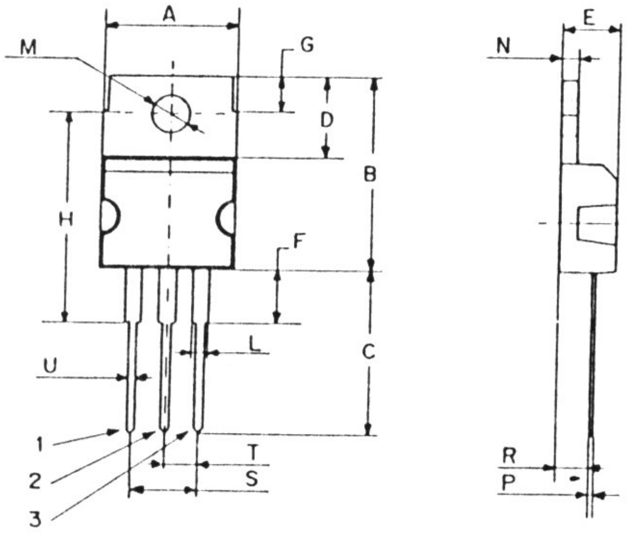
MECHANICAL DATA CASE TO-220

DIMENSIONS (mm)		
	Min.	Max.
A	9,90	10,30
B	15,65	15,90
C	13,20	13,40
D	6,45	6,65
E	4,30	4,50
F	2,70	3,15
G	2,60	3,00
H	15,75	17.15
L	1,15	1,40
M	3,50	3,70
N	-	1,37
P	0,46	0,55
R	2,50	2,70
S	4,98	5,08
T	2.49	2.54
U	0,70	0,90



Pin 1 :	Base
Pin 2 :	Collector
Pin 3 :	Emitter
Case :	Collector

Revised October 2014