NPN TIP130 – 131 – 132

SILICON DARLINGTON POWER TRANSISTORS

NPN epitaxial-base transistors in a monolithic Dalrington circuit and housed in a TO-220 enveloppe.
They are intented for use in power linear and switching applications.
The complementary PNP types are TIP135/136/137
Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	Collector-Base Voltage (I_E= 0)		TIP130	60	V
			TIP131	80	
			TIP132	100	
V_{CEO}	Collector-Emitter Voltage (I_B= 0)		TIP130	60	V
			TIP131	80	
			TIP132	100	
V_{EBO}	Emitter-Base Voltage (I_C= 0)			5	V
I_C	Collector Current			8	A
I_{CM}	Collector Peak Current (1)			12	A
I_B	Base Current			0.3	A
P_T	Power Dissipation	T_{case}	@ T_{mb} < 25°	70	W
		t_{amb}		2	
t_J	Junction Temperature			150	°C
t_s	Storage Temperature range			-65 to +150	

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJC}	From Junction to Case Thermal Resistance	1.78	°C/W
R_{thJA}	From Junction to Free-Air Thermal Resistance	62.5	

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	I_C= 30 mA I_B= 0	TIP130	60	-	-	V
			TIP131	80	-	-	
			TIP132	100	-	-	
I_{CBO}	Collector-Emitter sustaining Current	V_{CB} = V_{CEO} I_E= 0	TIP130	-	-	0.2	mA
			TIP131	-	-	0.2	
			TIP132	-	-	0.2	
		V_{CB} = V_{CEO} I_E= 0 T_C=100°C	TIP130	-	-	1	
			TIP131	-	-	1	
			TIP132	-	-	1	
I_{CEO}	Collector-Emitter Cutoff Current	V_{CE} = 30 V	TIP130	-	-	0.5	A
		V_{CE} = 40 V	TIP131	-	-	0.5	
		V_{CE} = 50 V	TIP132	-	-	0.5	
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5 V I_C= 0		-	-	5	mA
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C= 4A I_B= 16 mA		-	-	2	V
		I_C= 6 A I_B= 30 mA		-	-	3	
V_{BE}	Base-Emitter Voltage (*)	V_{CE}= 4 V I_C= 4 A		-	-	2.5	V
h_{FE}	Forward Current transfer ratio (*)	V_{CE}= 4 V I_C= 1 A		500	-	-	-
		V_{CE}= 4 V I_C= 4 A		1000	-	15000	
C_{OBO}	Output Capacitance	V_{CB}=10 V I_E=0		-	-	200	pF

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

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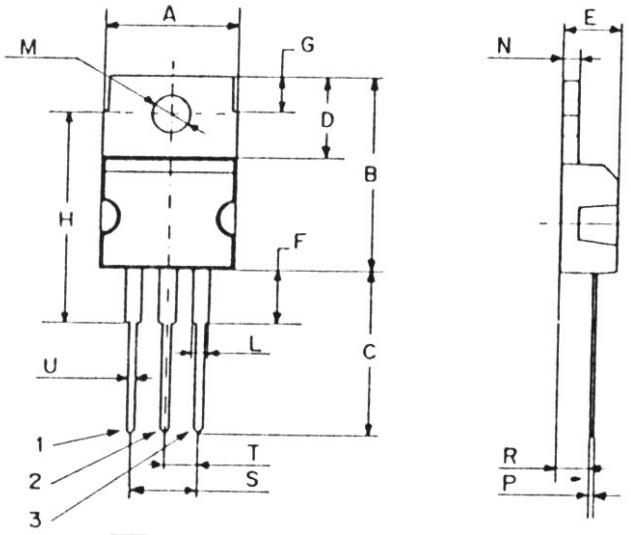
MECHANICAL DATA CASE TO-220

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

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