

Darlington Power Transistor

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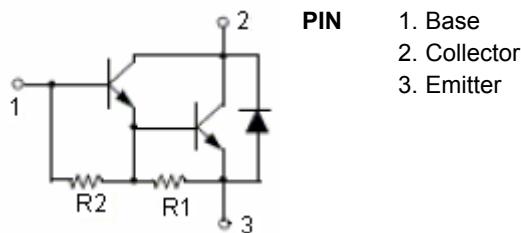


Features:

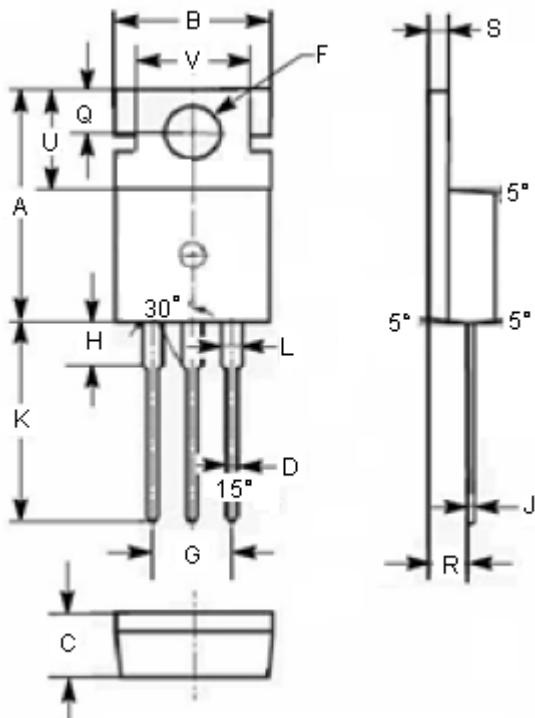
- Silicon NPN
- High DC current gain : $h_{FE} = 1,000$ (Minimum) at $I_C = 4\text{ A}$
- Collector - emitter sustaining voltage : $V_{CEO(\text{SUS})} = 100\text{ V}(\text{Minimum})$
- Low collector - emitter saturation voltage : $V_{CE(\text{sat})} = 2\text{ V}(\text{Maximum})$ at $I_C = 4\text{ A}$

Application:

Designed for general-purpose amplifier and low-speed switching applications



TO-220C



Dimension	mm	
	Minimum	Maximum
A	15.7	15.9
B	9.9	10.1
C	4.2	4.4
D	0.7	0.9
F	3.4	3.6
G	4.98	5.18
H	2.7	2.9
J	0.44	0.46
K	13.2	13.4
L	1.1	1.3
Q	2.7	2.9
R	2.5	2.7
S	1.29	1.31
U	6.45	6.65
V	8.66	8.86

Dimensions : Millimetres

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Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage	100	V
V_{CEO}	Collector - emitter voltage	100	V
V_{EBO}	Emitter - base voltage	5	V
I_C	Collector current - continuous	8	A
I_{CM}	Collector current - peak	12	A
I_B	Base current - continuous	0.3	A
P_C	Collector power dissipation at $T_C = 25^\circ\text{C}$	70	W
	Collector power dissipation at $T_C = 25^\circ\text{C}$	2	W
T_j	Junction temperature	150	$^\circ\text{C}$
T_{stg}	Storage temperature range	-65 to 150	$^\circ\text{C}$

Thermal Characteristics

Symbol	Parameter	Maximum	Unit
$R_{th\ j-c}$	Thermal resistance, junction to case	1.785	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal resistance, junction to ambient	63.5	$^\circ\text{C}/\text{W}$

Electrical Characteristics ($T_C = 25^\circ\text{C}$ Unless Otherwise Specified)

Symbol	Parameter	Conditions	Minimum	Maximum	Unit
$V_{CEO\ (SUS)}$	Collector - emitter sustaining voltage	$I_C = 30\text{ mA}, I_B = 0$	100	-	V
$V_{CE\ (sat)-1}$	Collector - emitter saturation voltage	$I_C = 4\text{ A}, I_B = 16\text{ mA}$	-	2	V
$V_{CE\ (sat)-2}$	Collector - emitter saturation voltage	$I_C = 6\text{ A}; I_B = 30\text{ mA}$	-	3	V
$V_{BE(on)}$	Base - emitter on voltage	$I_C = 4\text{ A}; V_{CE} = 4\text{ V}$	-	2.5	V
I_{CBO}	Collector cutoff current	$V_{CB} = 100\text{ V}, I_E = 0$	-	0.2	mA
I_{CEO}	Collector cutoff current	$V_{CE} = 50\text{ V}, I_B = 0$	-	0.5	mA
I_{EBO}	Emitter cutoff current	$V_{EB} = 5\text{ V}; I_C = 0$	-	5	mA
h_{FE-1}	DC current gain	$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	500	-	-
h_{FE-2}	DC current gain	$I_C = 4\text{ A}; V_{CE} = 4\text{ V}$	1,000	15,000	-

Part Number Table

Description	Part Number
Silicon NPN Darlington Power Transistor	TIP132

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