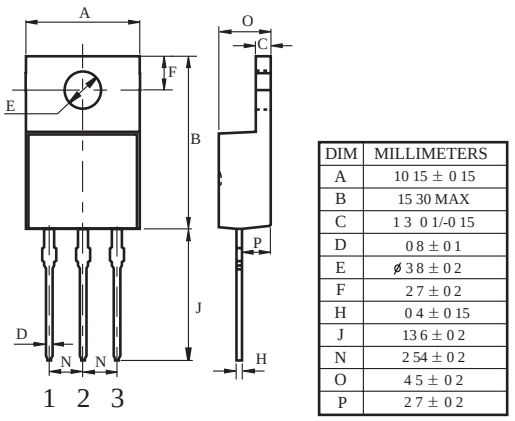
TIP142T Darlington TRANSISTOR (NPN)



DIM	MILLIMETERS
A	10 15 ± 0 15
B	15 30 MAX
C	1 3 0 1/-0 15
D	0 8 ± 0 1
E	ø 3 8 ± 0 2
F	2 7 ± 0 2
H	0 4 ± 0 15
J	13 6 ± 0 2
N	2 54 ± 0 2
O	4 5 ± 0 2
P	2 7 ± 0 2

1 BASE
2 COLLECTOR
3 EMITTER

TO-220

Features

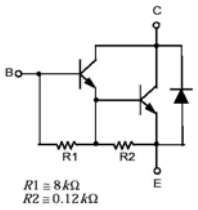
Monolithic construction with builtin base-emitter shunt resistors

High DC current gain complement to TIP147T.

Applications

Linear and switching industrial equipment.

Equivalent Circuit



Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	10	A
Peak Collector Current	I_{CP}	15	A
Base Current - Continuous	I_B	0.5	A
Collector Power Dissipation	$P_C(T_C=25℃)$	80	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=30mA	I_B=0	100			V
Collector Cut-Off Current	I_{CEO}	V_{CE}=50V	I_B=0			2	mA
Collector Cut-Off Current	I_{CBO}	V_{CB}=100V	I_E=0			1	mA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=5V	I_C=0			2	mA
DC Current Gain$_{(1)}$	$h_{FE(1)}$	V_{CE}=4V	I_C=5A	1000			
DC Current Gain$_{(2)}$	$h_{FE(2)}$	V_{CE}=4V	I_C=10A	500			
Collector to Emitter Saturation Voltage$_{(1)}$	$V_{CE(sat)(1)}$	I_C=5A	I_B=10mA			2	V
Collector to Emitter Saturation Voltage$_{(2)}$	$V_{CE(sat)(2)}$	I_C=10A	I_B=40mA			3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10A	I_B=40mA			3.5	V
Base to Emitter Voltage	V_{BE}	V_{CE}=4V	I_C=10A			3	V
Delay Time	t_D	V_{CC}=30V I_{B1}=20mA R_L=6Ω	I_C=5A I_{B2}=20mA		0.15		μs
Rise Time	t_R				0.55		μs
Storage Time	t_{STG}				2.5		μs
Fall Time	t_F				2.5		μs

Typical Characteristics