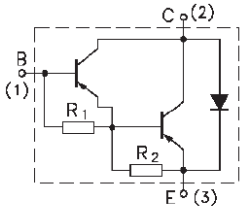
TIP117

Darlington Amplifier Transistor(PNP)

FEATURES

- Monolithic Construction With Built in Base -Emitter Shunt Resistors.
- Complementary to TIP112.
- High DC Current Gain:h_{FE}=1000@V_{CE}=-4V,I_C=-1A.
- Low Collector-Emitter Saturation Voltage.
- Industrial Use.



R_1 Typ.= 4K Ω
R_2 Typ.= 200

TO-220AB

MAXIMUM RATING operating temperature range applies unless otherwise specified

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	DC Pulse	-2 -4	A
I_B	Base Crrent		-50	mA
P_C	Collector Dissipation	T_a=25℃ T_c=25℃	2 50	W
T_j, T_{stg}	Junction and Storage Temperature		-65 to +150	℃

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ELECTRICAL CHARACTERISTICS Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-emitter Sustaining Voltage	$V_{CEO(SUS)}$	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_{CE}=-100V, V_{EB}=0			-1	mA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V,I_C=0			-2	mA
DC Current Gain	h_{FE}	V_{CE}=-4V,I_C=-1A V_{CE}=-4V,I_C=-2A	1000 500			
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-2A, I_B=-8mA			-2.5	V
Base-emitter on Voltage	$V_{BE(on)}$	V_{CE}=-4V ,I_C=-2A			-2.8	V
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=0.1MHz			200	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

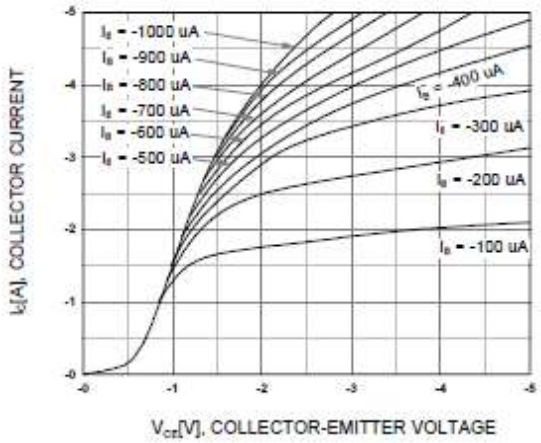

Figure 1. Static Characteristic

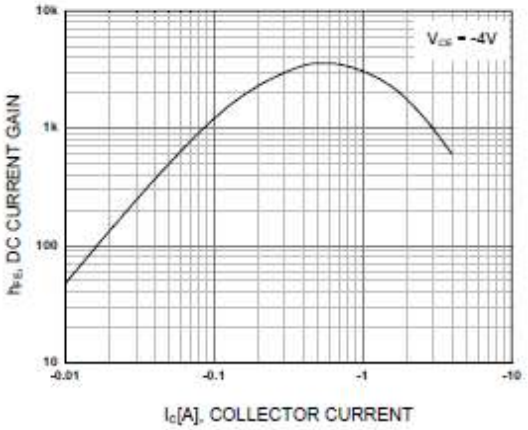

Figure 2. DC current Gain

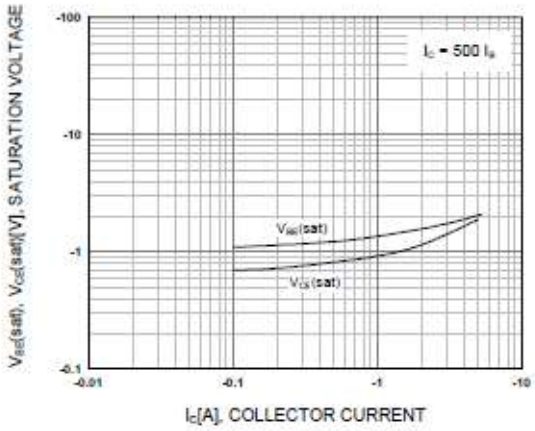

Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

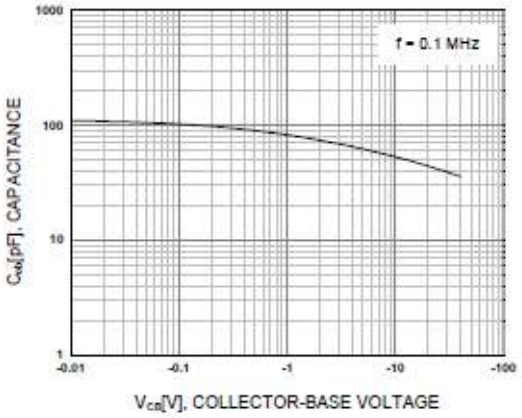

Figure 4. Collector Output Capacitance

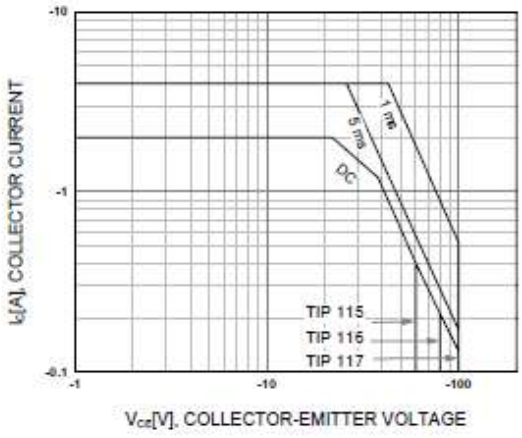

Figure 5. Safe Operating Area

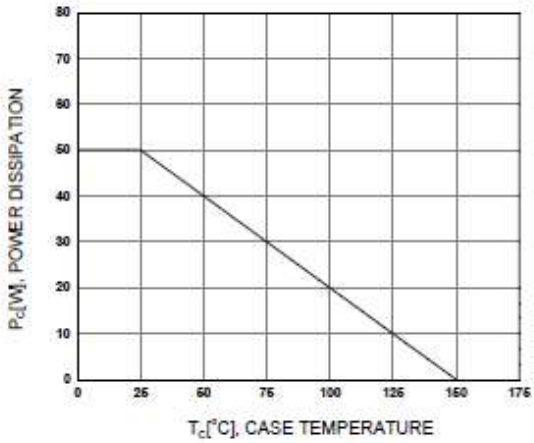

Figure 6. Power Derating

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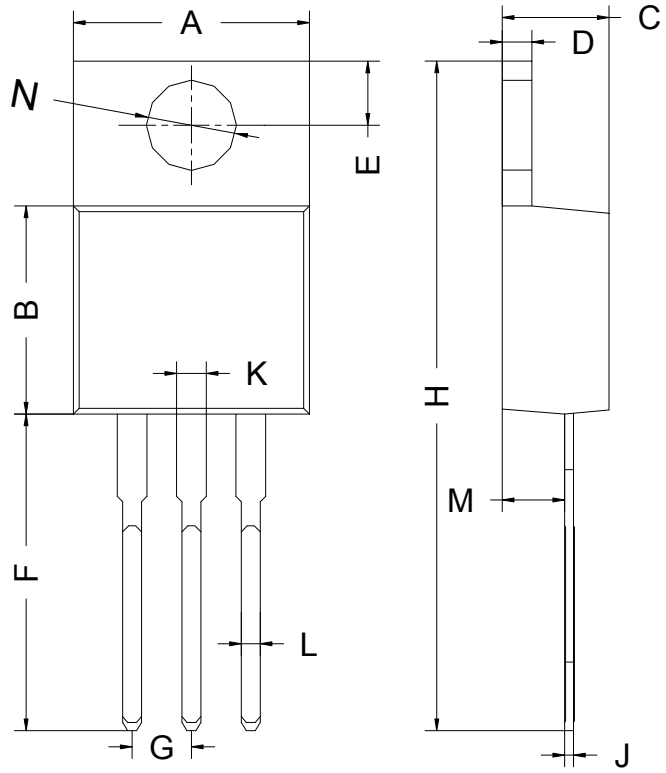
PACKAGE OUTLINE

Plastic surface mounted package TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.57 Typical	
D	1.27 Typical	
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
J	0.38 Typical	
K	1.22	1.32
L	0.71	0.91
M	2.50 Typical	
N	3.86 Typical	
All Dimensions in mm		