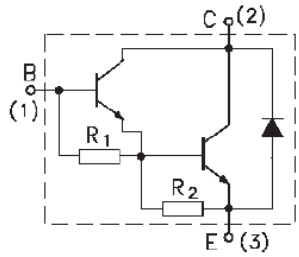
TIP112

Darlington Amplifier Transistor(NPN)

FEATURES

- Monolithic Construction With Built in Base -Emitter Shunt Resistors
- Complementary to TIP117
- 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

Ordering Information

Part Number	Package	Shipping	Marking Code
TIP112	TO-220AB	50 pcs / Tube	TIP112

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_{CB}=100V, I_E=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			100	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

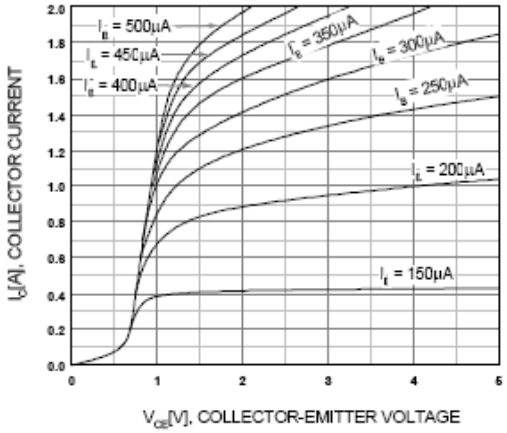

Figure 1. Static Characteristic

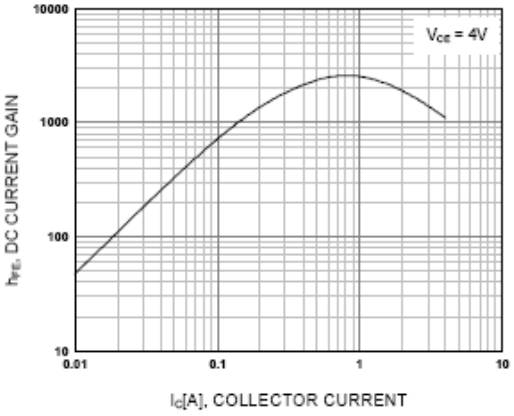

Figure 2. DC current Gain

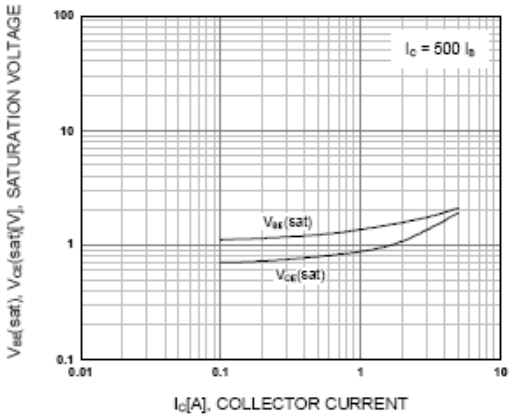

Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

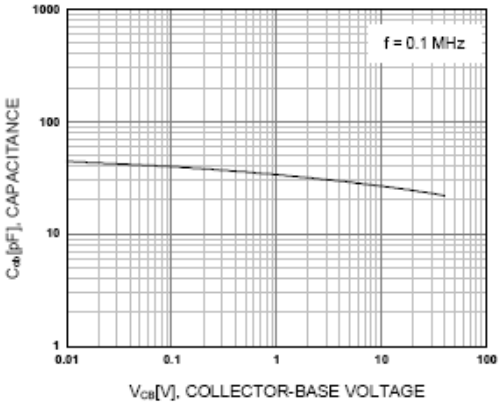

Figure 4. Collector Output Capacitance

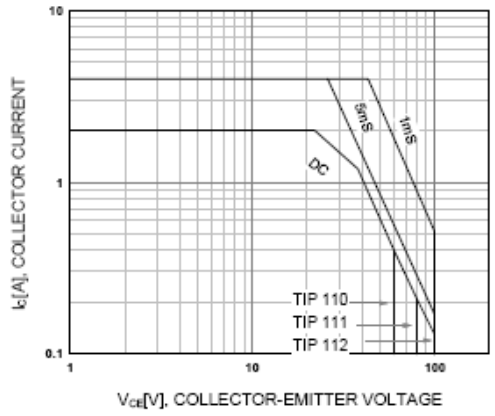

Figure 5. Safe Operating Area

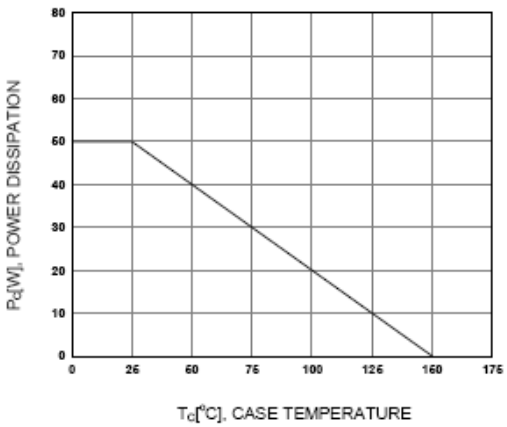

Figure 6. Power Derating

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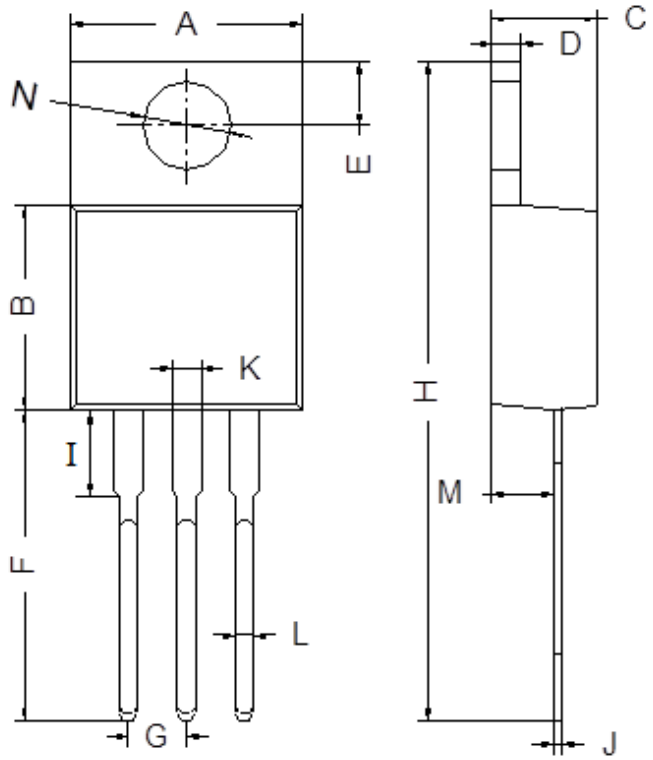
PACKAGE OUTLINE

Plastic surface mounted package TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.37	4.77
D	1.07	1.47
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
I	3.50	4.00
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96
All Dimensions in mm		