

■ Productor Character

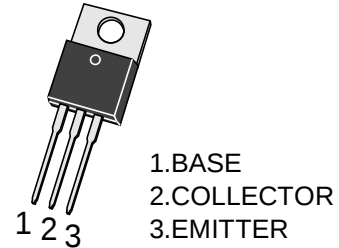
- Low collector-emitter saturation voltage
- Complementary NPN - PNP transistors

■ Summarize

- General purpose linear and switching

■ Equivalent Circuit

TO-220AB



TIP122(NPN)

TIP127(PNP)

Absolute Maximum Ratings @25°C

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 1.92°C/W Junction to Case
- Thermal Resistance: 62.5°C/W Junction to Ambient

Parameter	Symbol	Rating		Unit
		TIP122	TIP127	
Collector-Base Voltage	V_{CBO}	100	-100	V
Collector-Emitter Voltage	V_{CEO}	100	-100	V
Emitter-Base Voltage	V_{EBO}	5	-5	V
Continuous Collector Current	I_C	5	-5	A
Peak Collector Current	I_{CM}	8	-8	A
Power Dissipation @ $T_C=25^\circ\text{C}$	P_D	65	40	W
Power Dissipation @ $T_A=25^\circ\text{C}$	P_D	2	2	W



Electricity Character @25°C
TIP122

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100			V	$I_C=30mA, I_B=0$
Collector Cutoff Current	I_{CBO}			0.2	mA	$V_{CB}=100V, I_E=0$
Collector Cutoff Current	I_{CEO}			0.5	mA	$V_{CE}=50V, I_B=0$
Emitter Cutoff Current	I_{EBO}			2.0	mA	$V_{EB}=5V, I_C=0$
DC Current Gain	$h_{FE(1)}$	1000				$V_{CE}=3V, I_C=0.5A$
	$h_{FE(2)}$	1000				$V_{CE}=3V, I_C=3A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			2.0	V	$I_C=3A, I_B=12mA$
				4.0	V	$I_C=5A, I_B=20mA$
Base-Emitter On Voltage	V_{BE}			2.5	V	$V_{CE}=3V, I_C=3A$

TIP127

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-100			V	$I_C=-100mA, I_B=0$
Collector Cutoff Current	I_{CBO}			-0.2	mA	$V_{CB}=-100V, I_E=0$
Collector Cutoff Current	I_{CEO}			-0.5	mA	$V_{CE}=-50V, I_B=0$
Emitter Cutoff Current	I_{EBO}			-2	mA	$V_{EB}=-5V, I_C=0$
DC Current Gain	$h_{FE(1)}$	1000				$V_{CE}=-3V, I_C=-0.5A$
	$h_{FE(2)}$	1000				$V_{CE}=-3V, I_C=-3A$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-2.0	V	$I_C=-3A, I_B=-12mA$
				-4.0	V	$I_C=-5A, I_B=-20mA$
Base-Emitter Voltage	V_{BE}			-2.5	V	$V_{CE}=-3V, I_C=-3A$
Output Capacitance	C_{ob}			300	pF	$V_{CB}=-10V, I_E=0, f=0.1MHz$



TIP122 Characteristic Curves

Fig. 1 - Static Characteristics

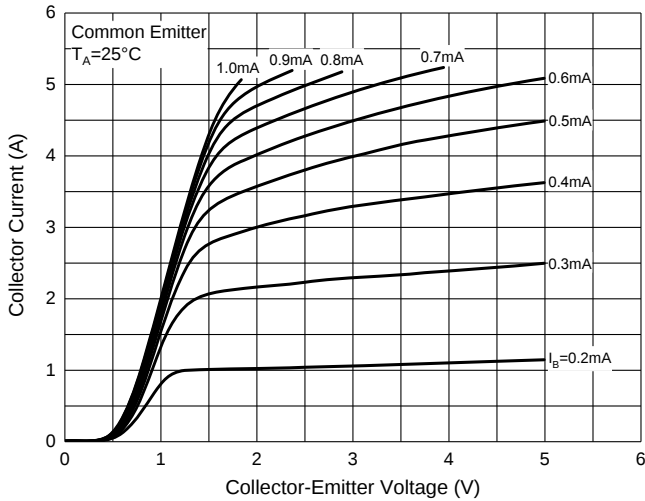


Fig. 2 - DC Current Gain Characteristics

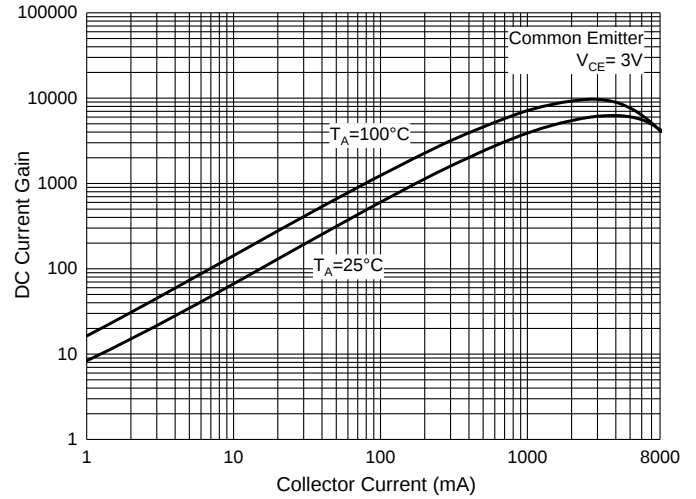


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

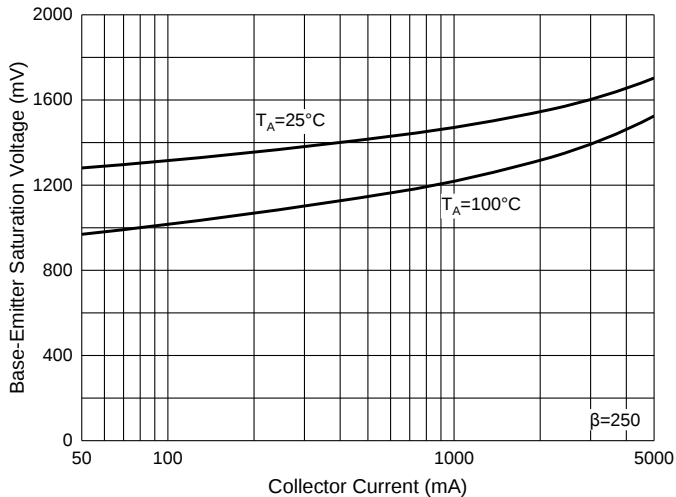


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

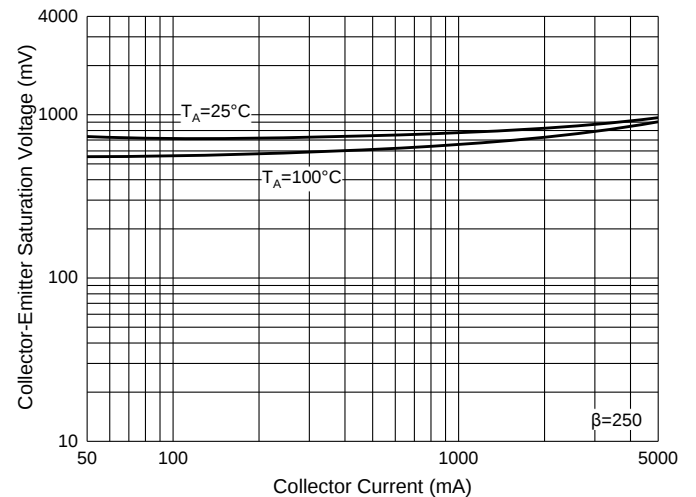


Fig. 5 - Base-Emitter Voltage Characteristics

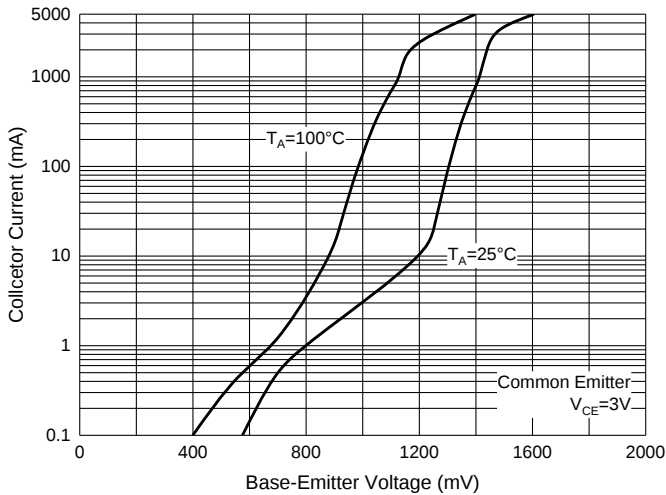
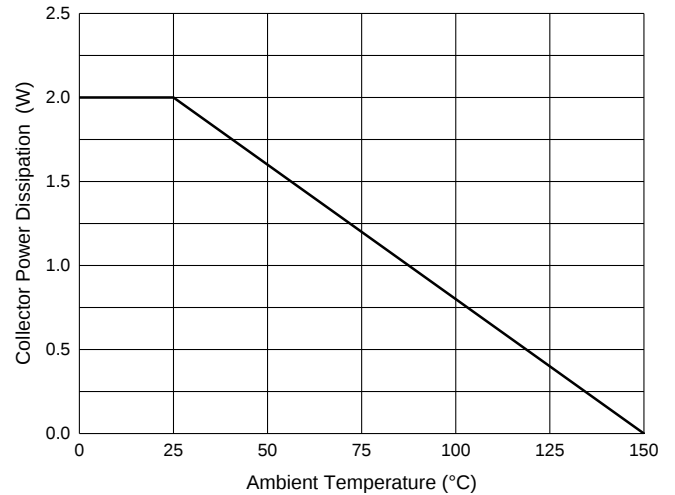


Fig. 6 - Collector Power Derating Curve



TIP127 Characteristic Curves

Fig. 1 - Static Characteristics

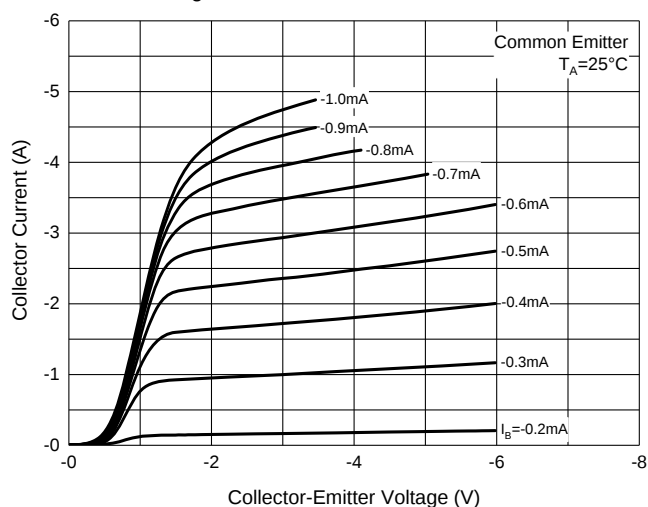


Fig. 2 - DC Current Gain Characteristics

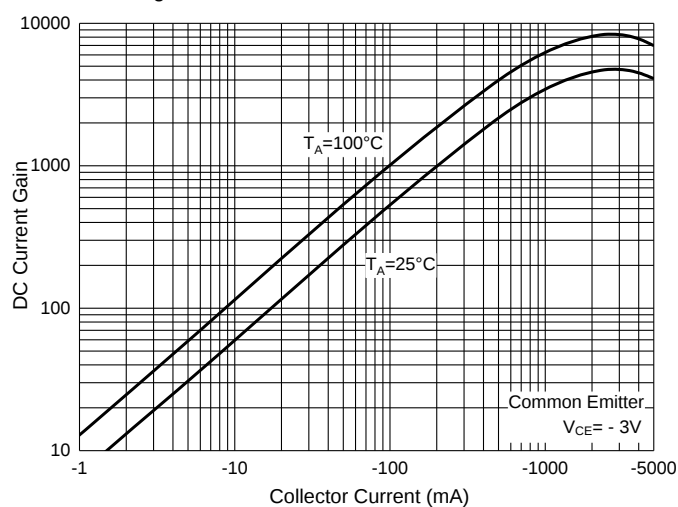


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

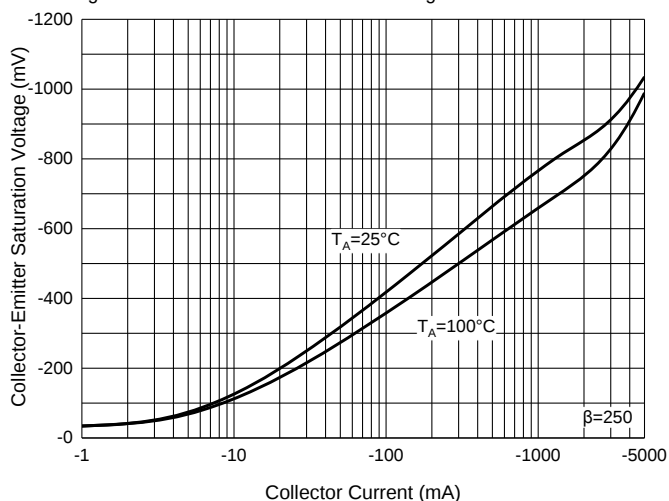


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

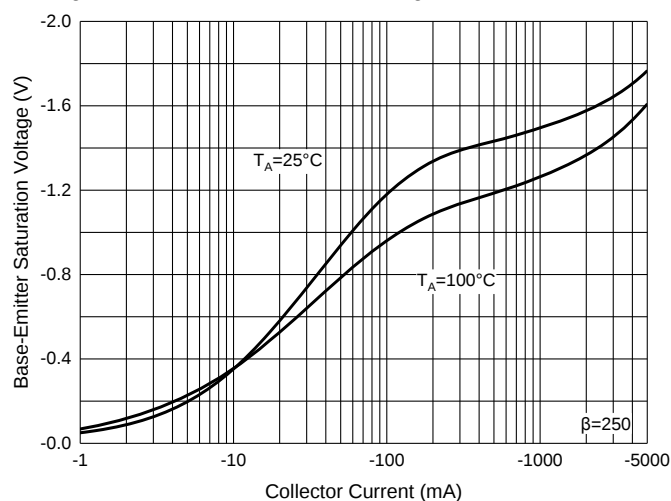


Fig. 5 - Base-Emitter Voltage Characteristics

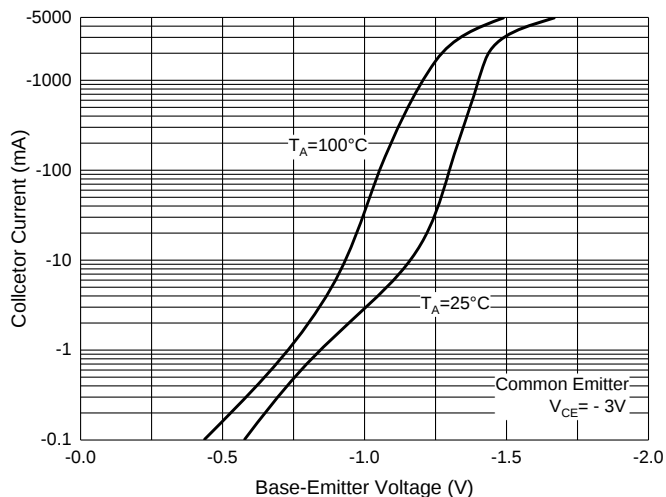
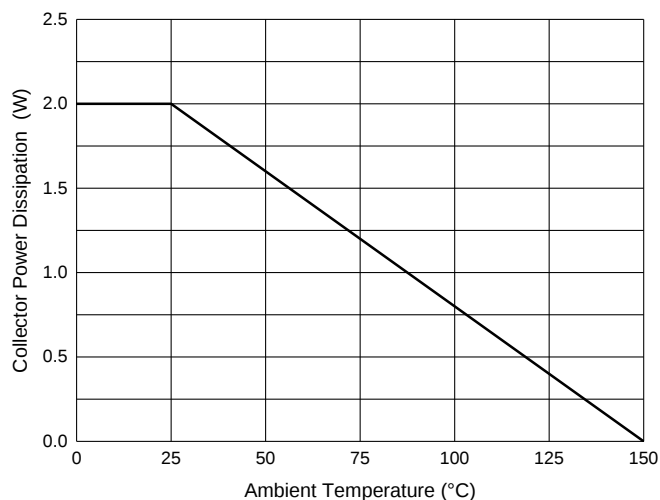
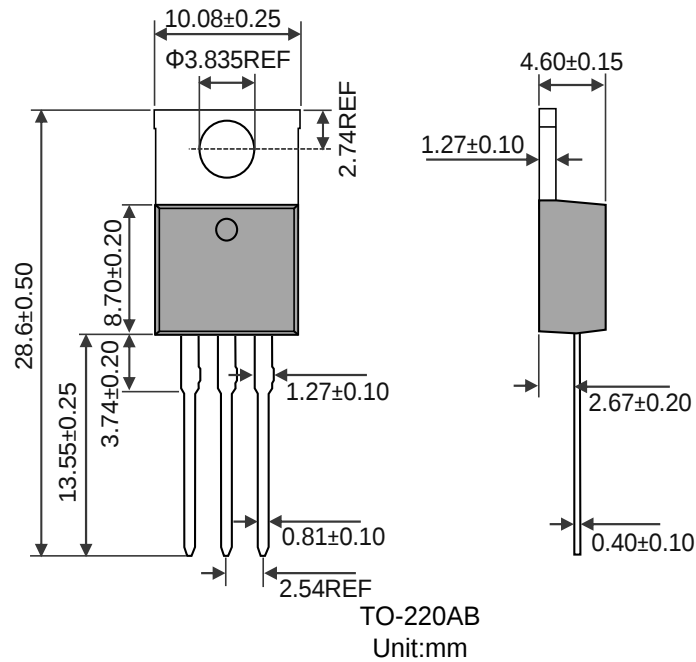


Fig. 6 - Collector Power Derating Curve



Package Outline Dimensions



Marking Information



“MHCHXM”= Product Logo

“Marking Code”= The Following

“XXXX”= Date Code Marking

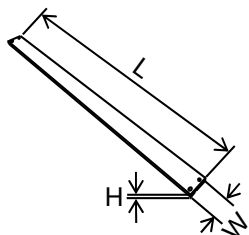
Marking Code	Part Number
TIP122	TIP122
TIP127	TIP127



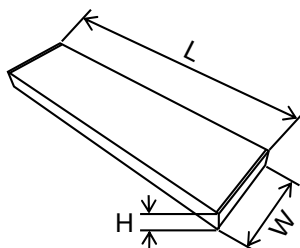
Packing Information

Packaging	Part Number	Quantity(pcs)	Size(mm)
Tube	Tube	50	L534×W33×H7
	Inner Box	1000	L560×W150×H40
	Outer Box	5000	L570×W235×H175

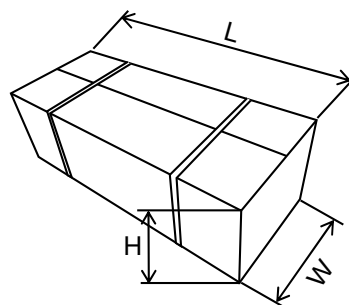
Packaging:Tube



Tube



Tube Inner Box



Tube Outer Box



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