

TIP117

Rev. H Oct.-2018

/ Descriptions

TO-220 PNP Silicon PNP transistor in a TO-220 Plastic Package.

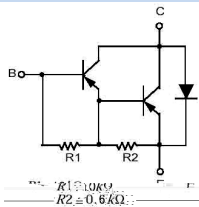
/ Features

TIP112
Complement to TIP112.

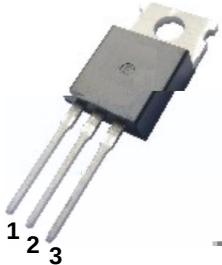
/ Applications

Medium power linear switching applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

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

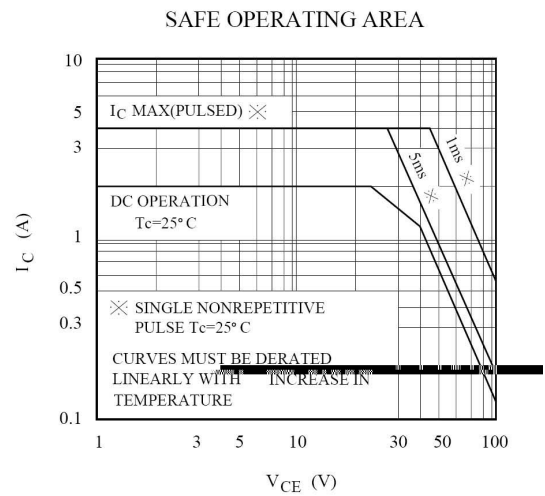
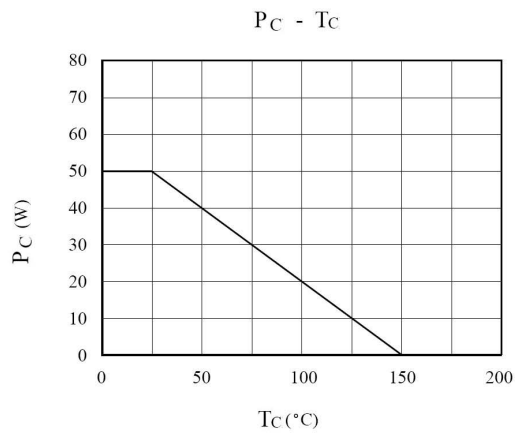
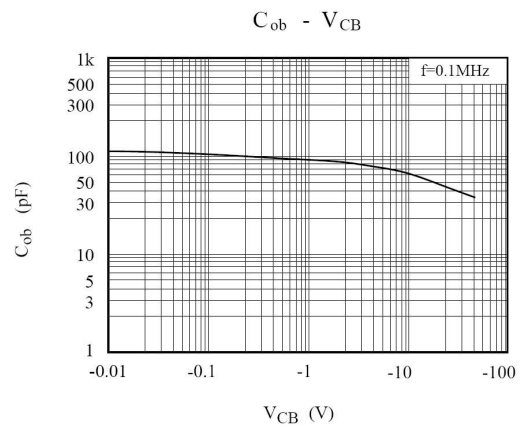
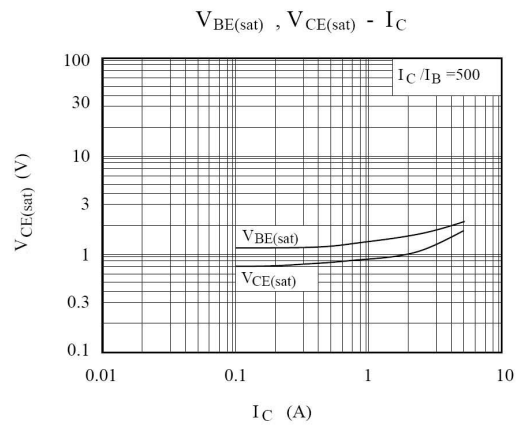
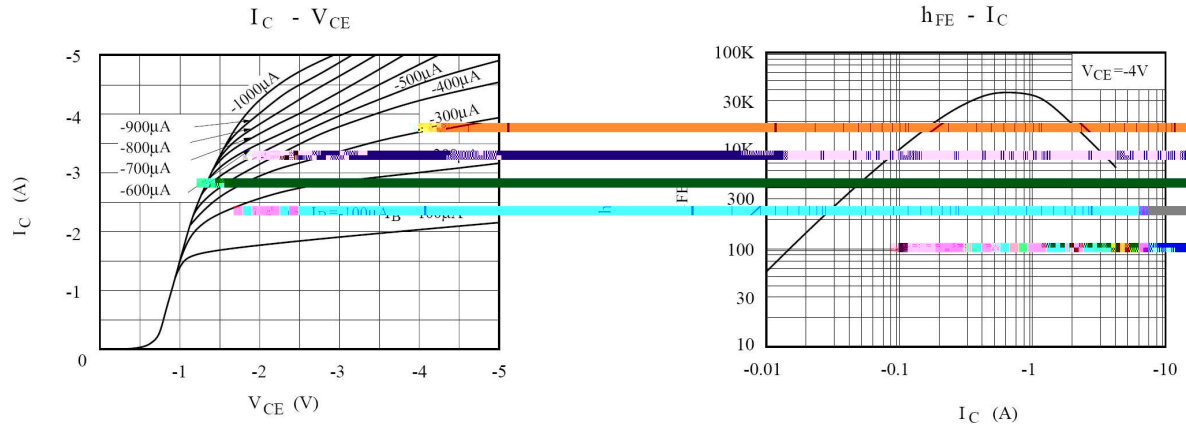
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-100	V
Collector to Emitter Voltage	V_{CEO}	-100	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_C	-2.0	A
Peak Collector Current	I_{CP}	-4.0	A
Base Current - Continuous	I_B	-50	mA
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	50	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

/ Electrical Characteristics($T_a=25^\circ\text{C}$)

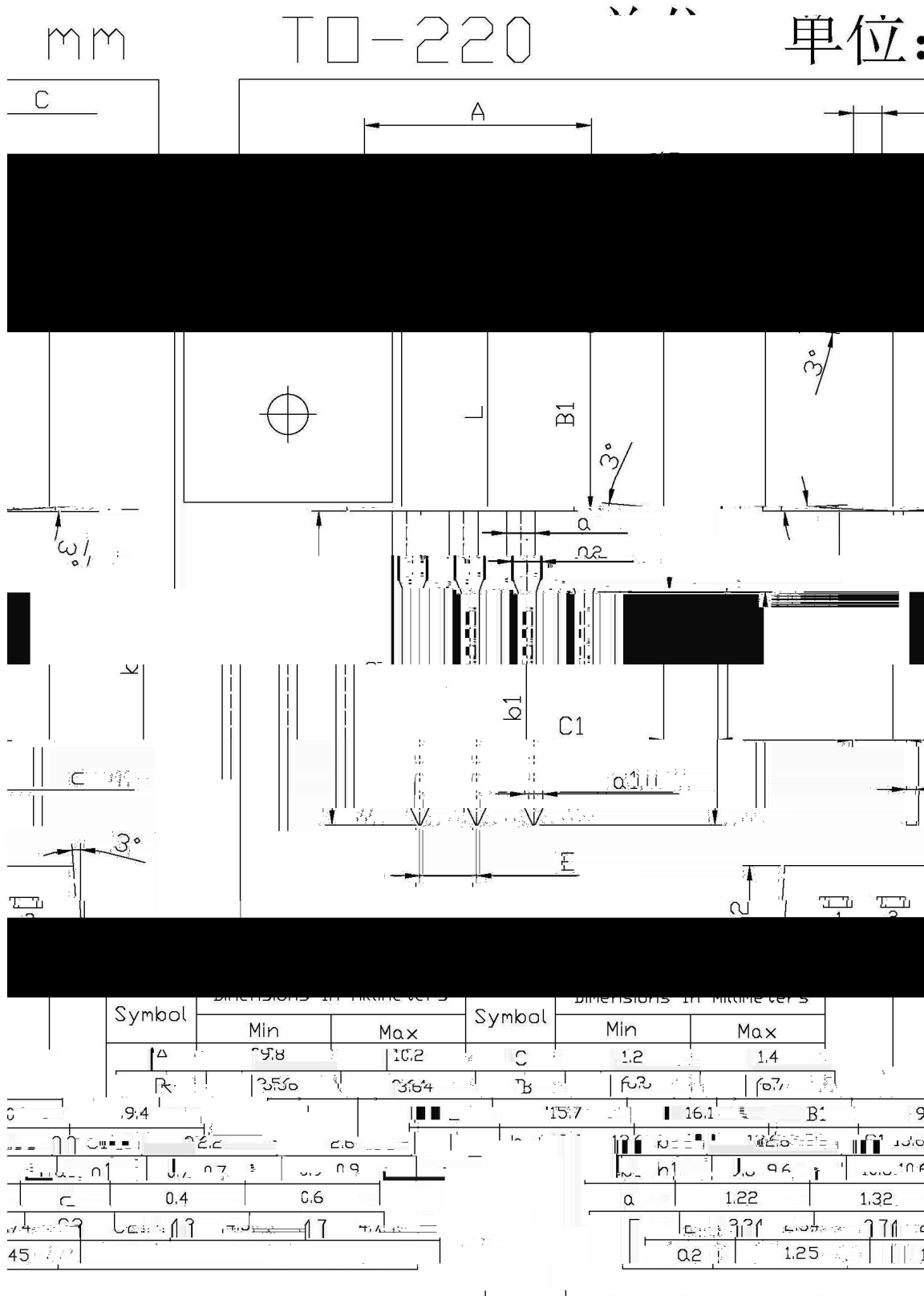
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-30\text{mA}$ $I_B=0$	-100			V
Collector Cut-Off Current	I_{CEO}	$V_{CE}=-50\text{V}$ $I_B=0$			-2.0	mA
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-100\text{V}$ $I_E=0$			-1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5\text{V}$ $I_C=0$			-2.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-4\text{V}$ $I_C=-1\text{A}$	1000			
	$h_{FE(2)}$	$V_{CE}=-4\text{V}$ $I_C=-2\text{A}$	500			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-2\text{A}$ $I_B=-8\text{mA}$			-2.5	V
Base to Emitter On Voltage	$V_{BE(on)}$	$I_C=-2\text{A}$ $V_{CE}=-4\text{V}$			-2.8	V
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}$ $I_E=0$ $f=0.1\text{MHz}$			200	pF



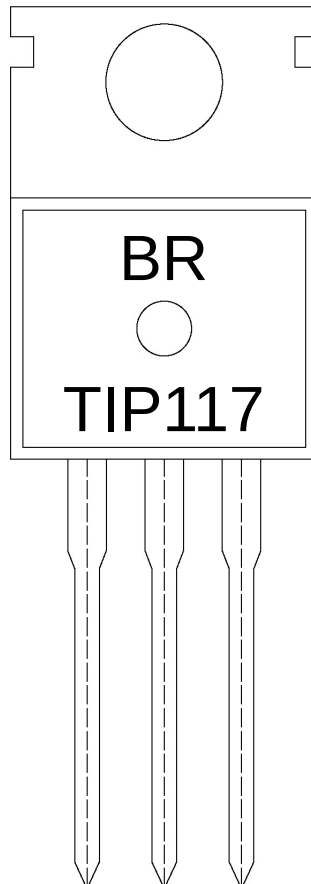
Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

TIP117

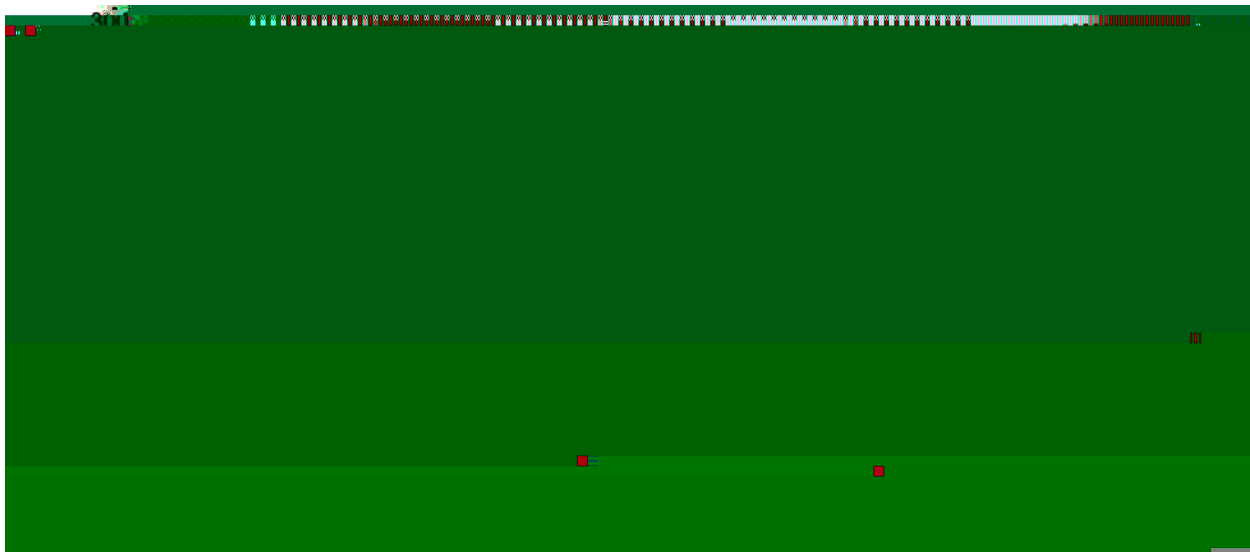
Note:

BR: Company Code

TIP117: Product Type.

****: Lot No. Code, code change with Lot No.

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|---|--------------------------------------|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. | |
| 3 | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. | |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension		(unit mm ³)

/ TUBE

Package Type	Units					Dimension		(unit mm ³)

/ Notices