

/ Descriptions

Silicon NPN transistor in a TO-220 Plastic Package.

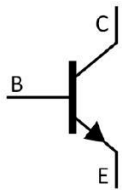
/ Features

High voltage switching transistor.

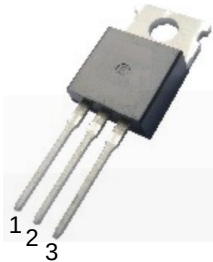
/ Applications

Switching regulator and general purpose.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

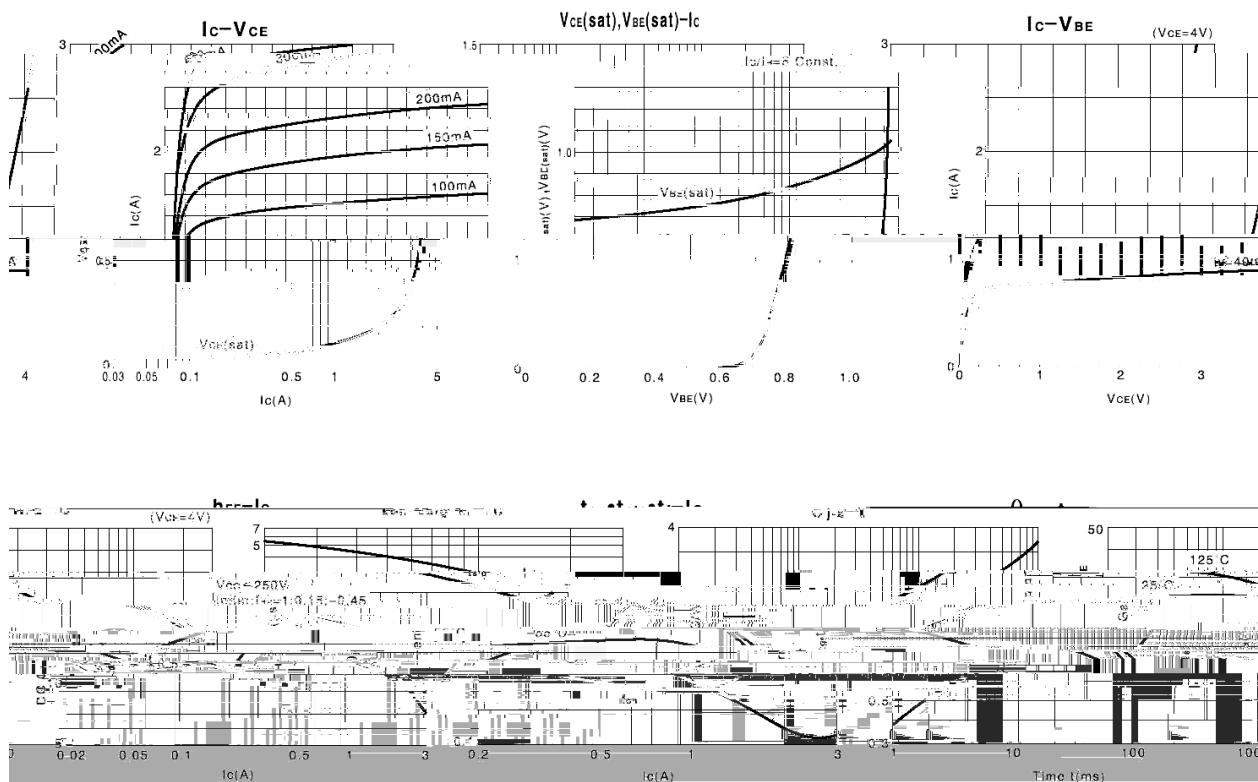
See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	900	V
Collector to Emitter Voltage	V_{CEO}	550	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	3.0	A
Base Current - Continuous	I_B	1.5	A
Collector Power Dissipation	P_C	30	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55~150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=800V$ $I_E=0$			100	A
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=7.0V$ $I_C=0$			100	A
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA$ $I_B=0$	550			V
DC Current Gain	h_{FE}	$V_{CE}=4.0V$ $I_C=1.0A$	10		30	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A$ $I_B=0.2A$			0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.0A$ $I_B=0.2A$			1.2	V
Transition Frequency	f_T	$V_{CE}=12V$ $I_E=-0.25A$		6		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$		35		pF

/ Electrical Characteristic Curve

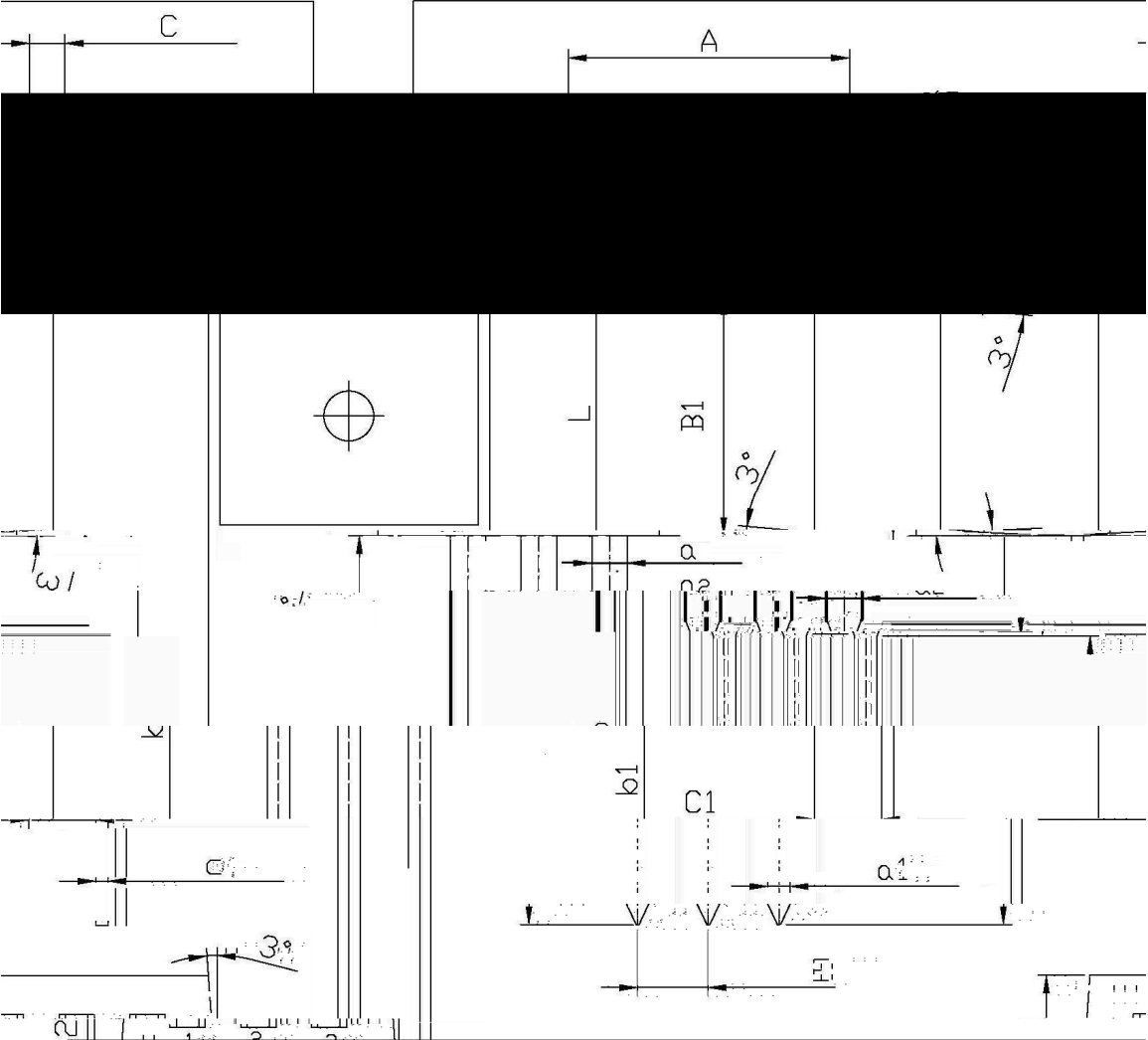


/ Package Dimensions

单位: mm

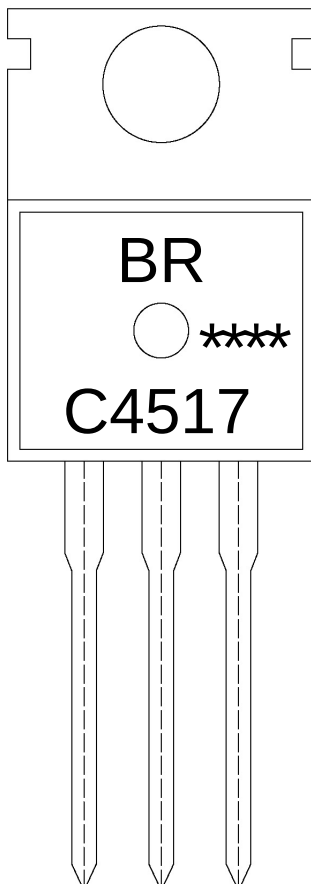
TO-220

单



Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	9.8	10.2	C	1.2	1.4
B	9.5	10.5	a	0.6	0.7
L	9.0	9.4	b	15.7	16.1
a1	0.4	0.6	C1	1.22	1.32
b1	1.25	1.45			0.2

/ Marking Instructions



Note:

BR: Company Code

C4517: 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices