

/ Descriptions

Silicon NPN transistor in a TO-220 Plastic Package.

/ Features

low collector saturation voltage, fast switching speed, wide base reverse-bias SOA.

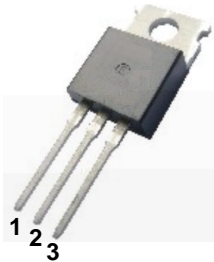
/ Applications

High-speed high-voltage converters, and high-frequency power amplifiers.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

See Marking Instructions.

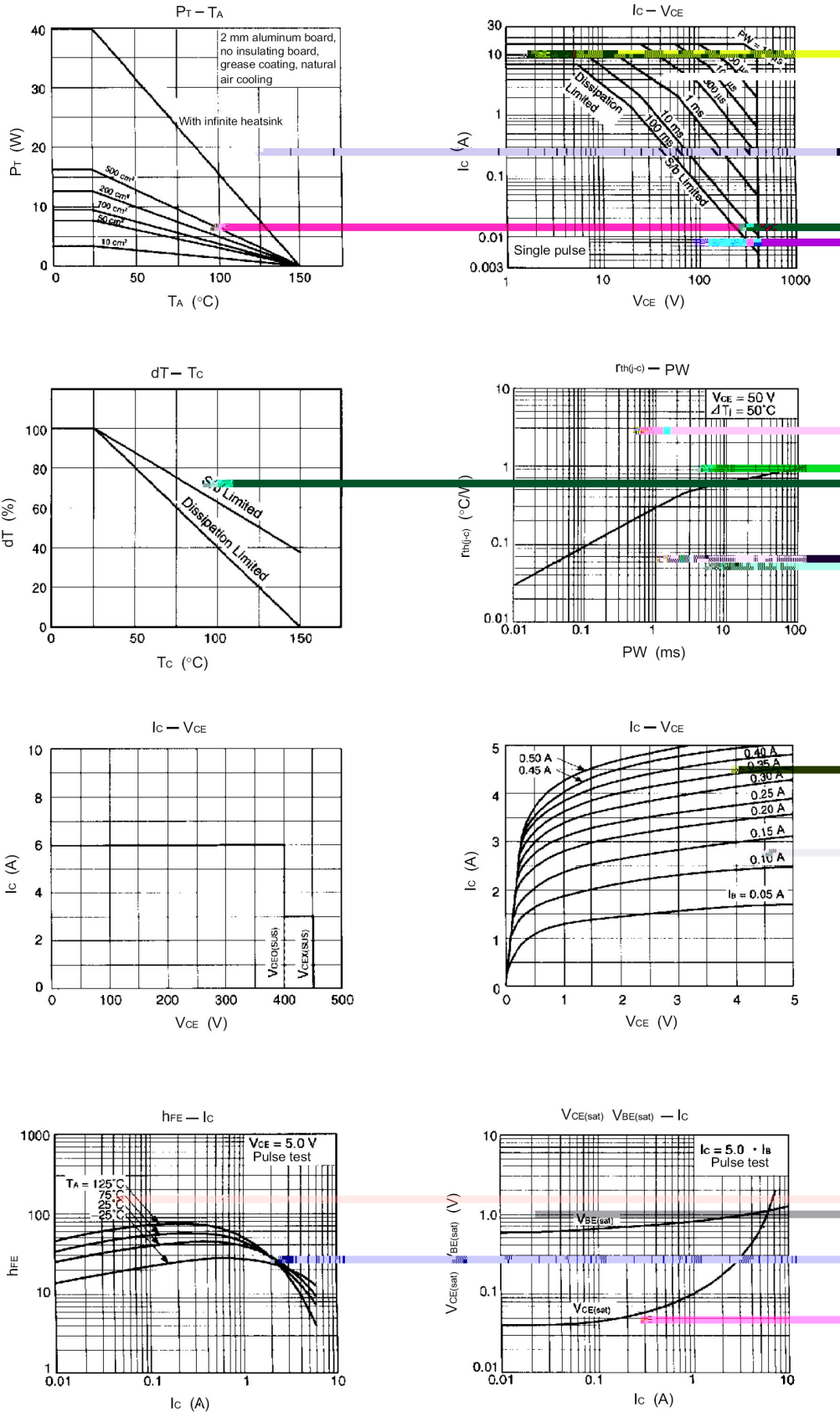
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous	I_C	7.0	A
Base Current - Continuous	I_B	3.5	A
Collector Power Dissipation	P_C	1.5	W
	$P_C(T_c=25^\circ C)$	40	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 150	$^\circ C$

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=3A$ $I_{B1}=0.6A$ $L=1mH$	400			V
Collector to Emitter Breakdown Voltage	$V_{CEX(SUS)1}$	$I_C=3A$ $I_{B1}=-I_{B2}=0.6A$ $V_{BE(OFF)}=-5V$ $L=180$ H	450			V
	$V_{CEX(SUS)2}$	$I_C=6A$ $I_{B1}=2A$ $-I_{B2}=0.6A$ $V_{BE(OFF)}=-5V$ $L=180$ H	400			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=400V$ $I_E=0$			1.0	A
Collector Cut-Off Current	I_{CER}	$V_{CE}=400V$ $R_{BE}=51$ $T_A=125^\circ C$			1.0	mA
Collector Cut-Off Current	I_{CEX1}	$V_{CE}=400V$ $R_{BE(OFF)}=-1.5V$			10	A
	I_{CEX2}	$V_{CE}=400V$ $R_{BE}=-1.5V$ $T_A=125^\circ C$			1.0	mA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5V$ $I_C=0$			10	A
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V$ $I_C=0.1A$	20		80	
	$h_{FE(2)}$	$V_{CE}=5V$ $I_C=1A$	20		80	
	$h_{FE(3)}$	$V_{CE}=5V$ $I_C=3A$	10			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3A$ $I_B=0.6A$			1.0	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=3A$ $I_B=0.6A$			1.2	V
Turn-On Time	t_{on}	$I_C=3A$ $R_L=50$ $I_{B1}=-I_{B2}=0.6A$ $V_{CC}=150V$			1.0	S
Storage Time	t_{stg}	Refer to the test circuit			2.5	S
Fall Time	t_r				1.0	S

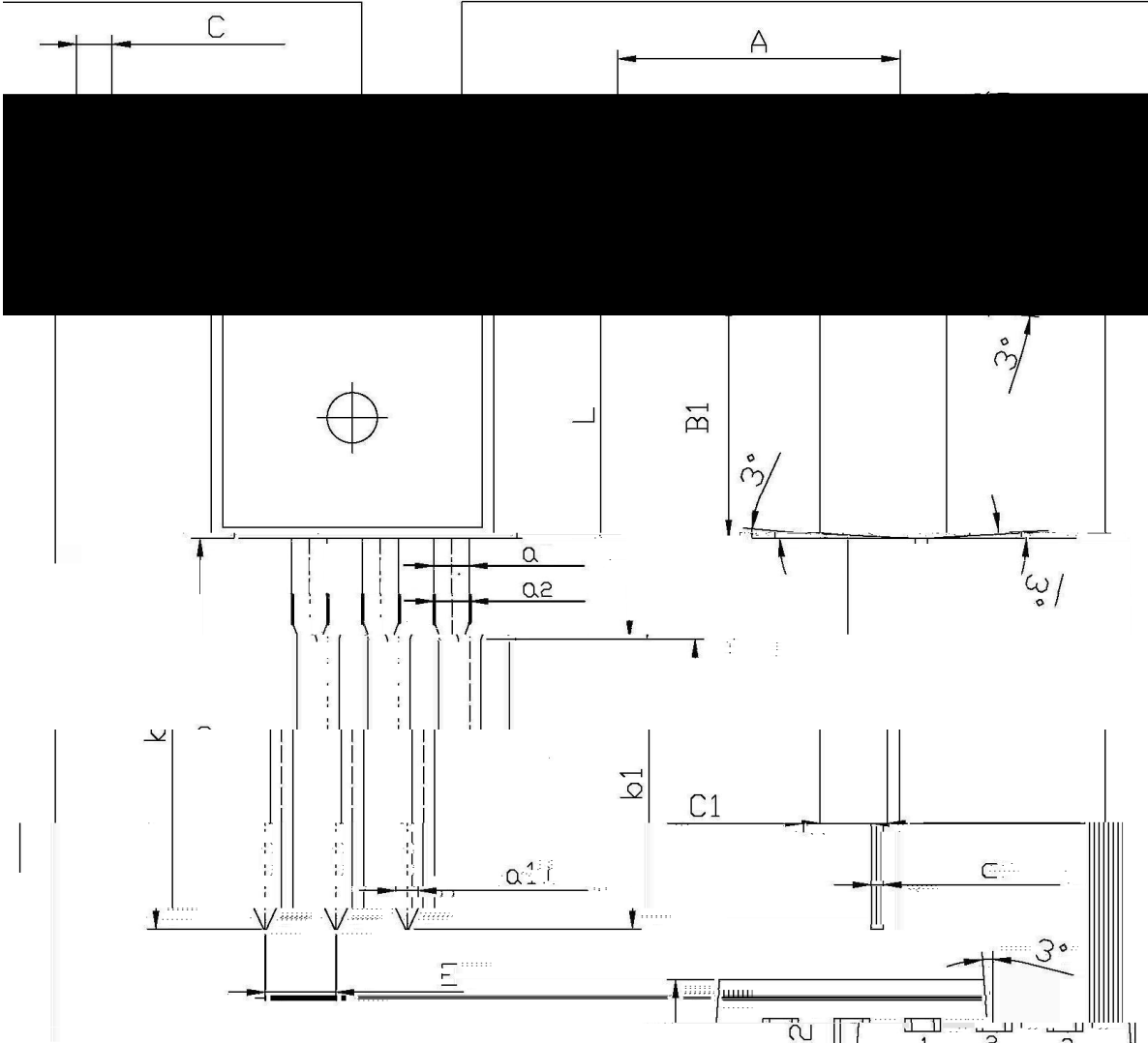
/ Electrical Characteristic Curve



/ Package Dimensions

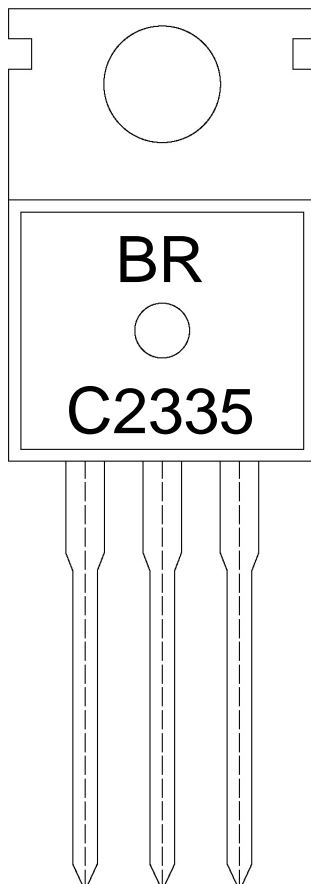
单位: mm

TO-220



Symbol	Dimensions in millimeters		Symbol	Dimensions in millimeters	
	Min	Max		Min	Max
A	9.8	10.2	C	1.2	1.4
B	6.3	6.7	B1	15.7	16.1
C1	0.4	0.6	a	1.22	1.25
a	0.2	0.25	a1	0.2	0.25
a2	0.2	0.25	b1	0.2	0.25
k	1.45	1.5	c	0.2	0.25
L	14.5	15.0	c1	0.2	0.25

/ Marking Instructions



BR

C2335

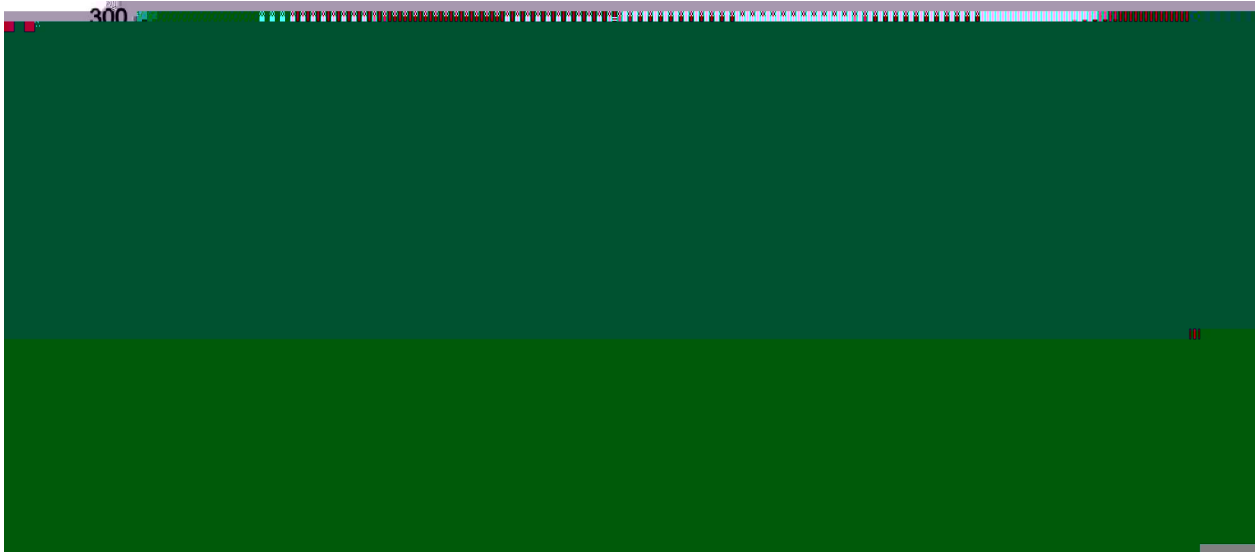
Note:

BR: Company Code

C2335: Product Type.

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

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



- | | | | | | | |
|---|-----|-----|----|----------|-------|---|
| 1 | 25 | 150 | 60 | 90sec; | Note: | 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