/ Descriptions

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

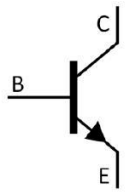
/ Features

High voltage.

/ Applications

High voltage switching and humidifier.

/ Equivalent Circuit



/ Pinning

PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

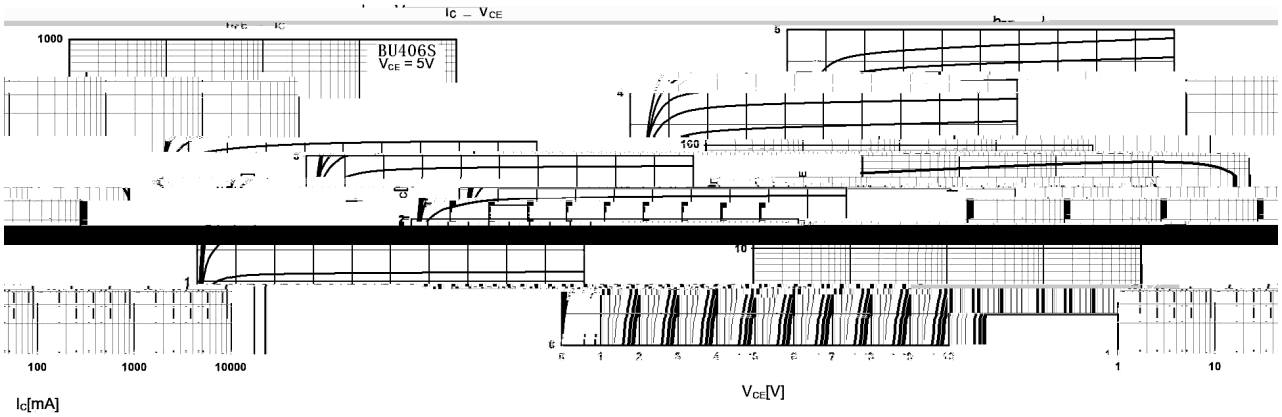
See Marking Instructions.

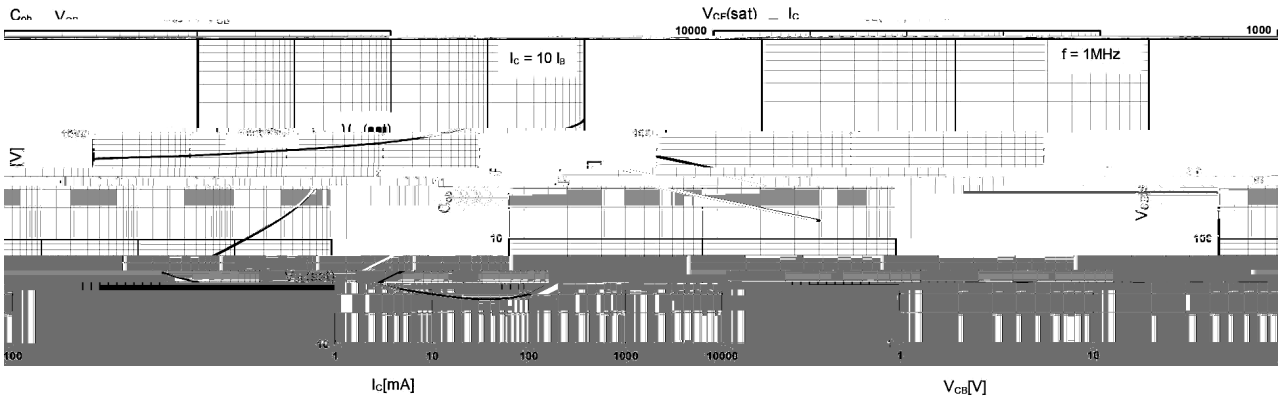
/ Absolute Maximum Ratings(Ta=25)

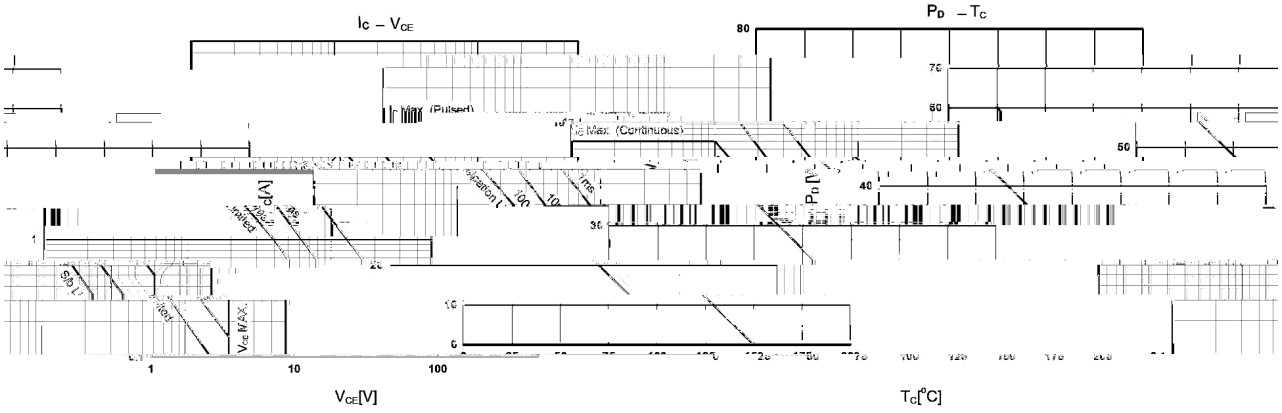
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	200	V
Collector to Emitter Voltage	V_{CEO}	120	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	7	A
Collector Current(Pulse)	I_{CP}	10	A
Base Current – Continuous	I_B	2	A
Collector Power Dissipation	P_C	60	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CES(1)}$	V_{CE}=200V V_{BE}=0			100	μA
	$I_{CES(2)}$	V_{CE}=150V V_{BE}=0			50	μA
	$I_{CES(3)}$	V_{CE}=150V V_{BE}=0 T_C=150			500	μA
Collector Cut-Off Current	I_{CEO}	V_{CE}=120V V_{BE}=0			100	μA
Emitter Cut-Off Current	I_{EBO}	V_{BE}=6.0V I_C=0			1.0	mA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5.0V I_C=2.0A	60		120	
	$h_{FE(2)}$	V_{CE}=5.0V I_C=5.0A	40			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=5.0A I_B=0.5A		0.22	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=5.0A I_B=0.5A		1.05	1.25	V
Transition Frequency	f_T	V_{CE}=10V I_C=0.5A	10			MHz
Turn-Off Time	t_{off}	I_C=5.0A I_B=0.5A			0.7	μS

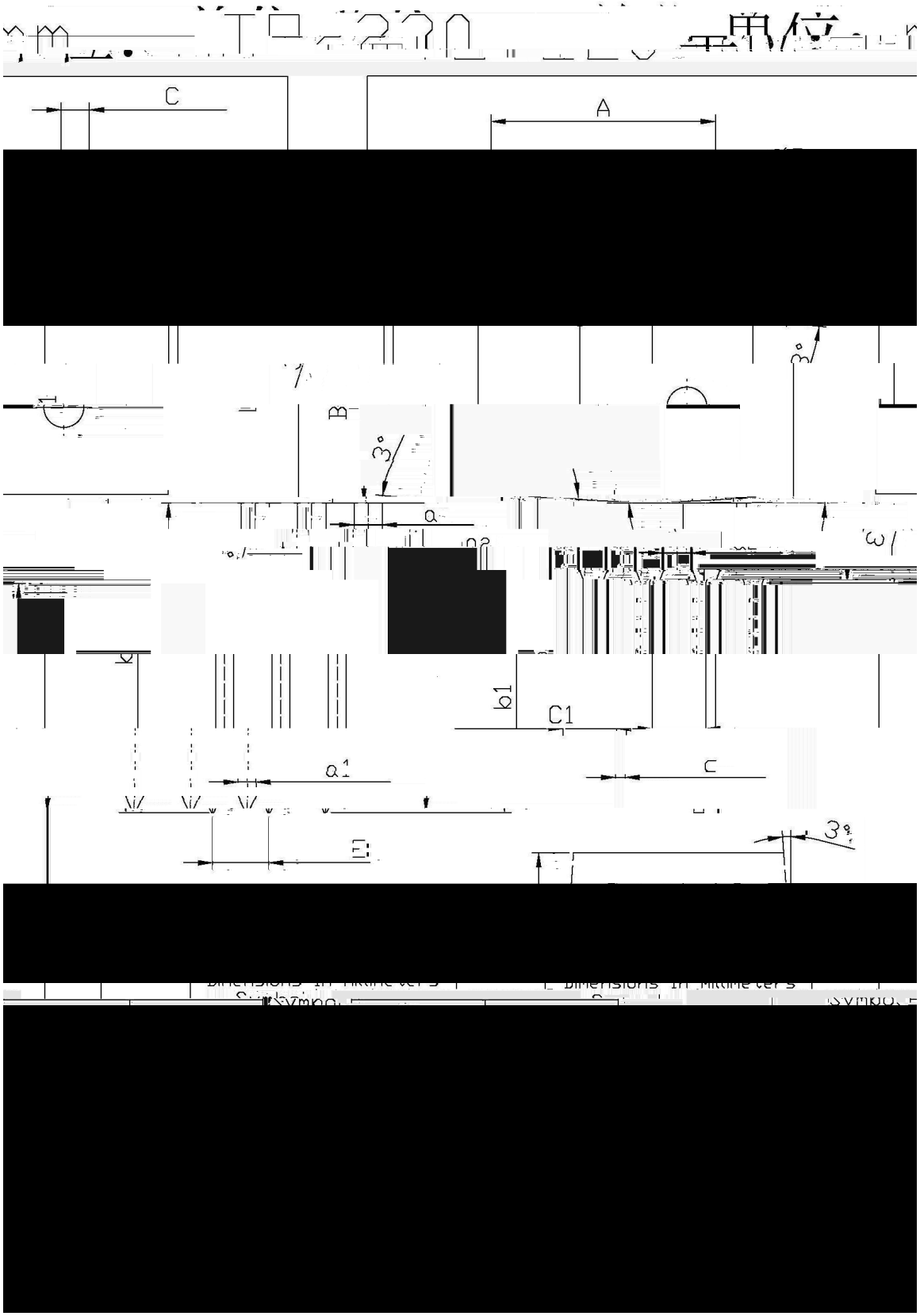
/ Electrical Characteristic Curve



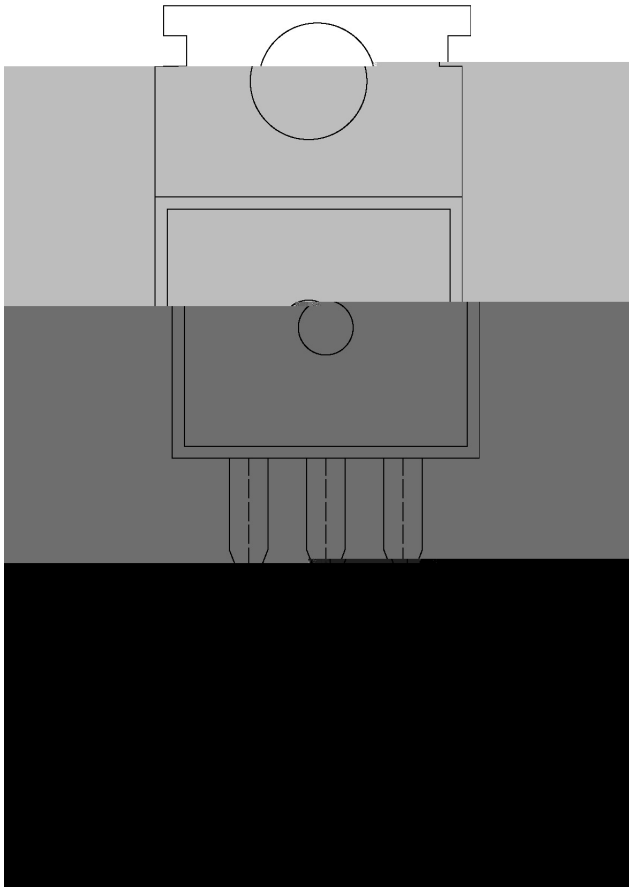




/ Package Dimensions



/ Marking Instructions



BR

BU406S

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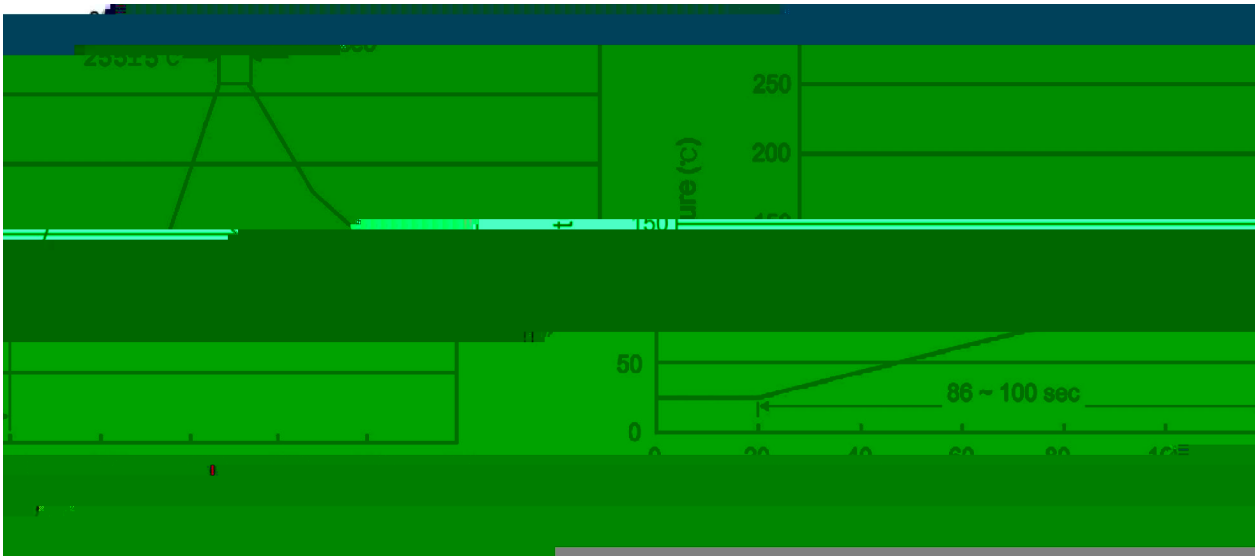
Note:

BR: Company Code

( ) / 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

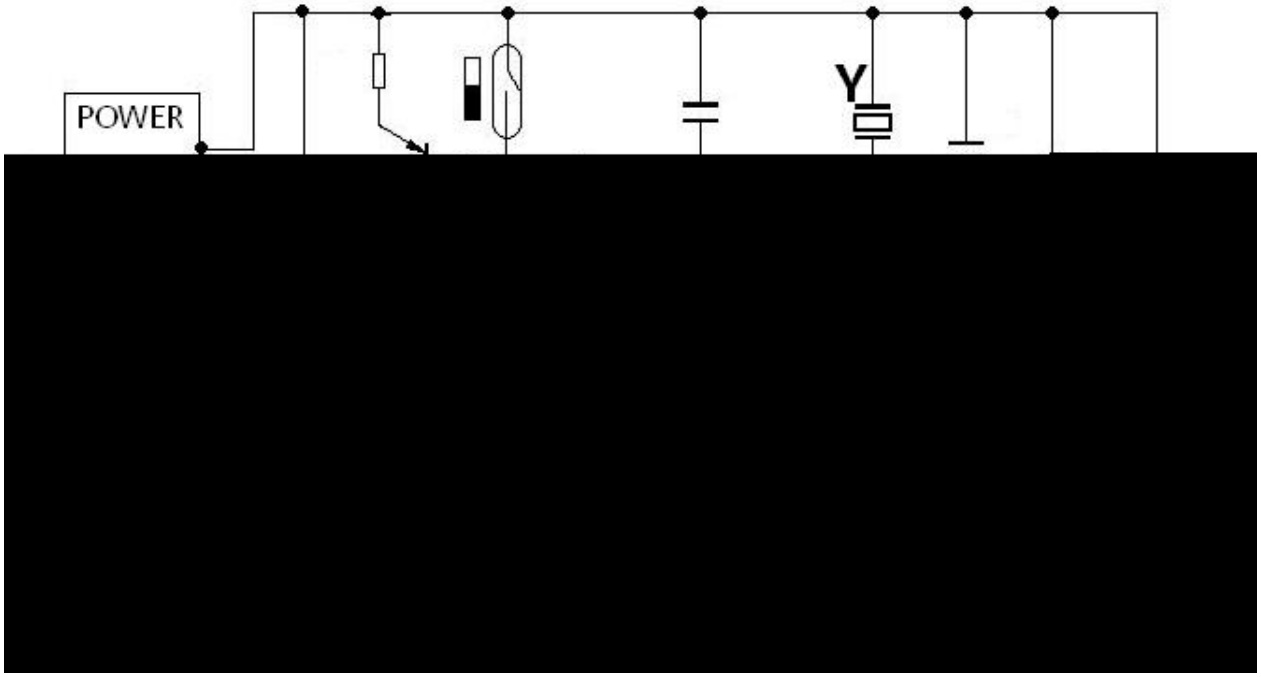
Package Type	Units					Dimension		(unit mm³)
	Units/Bag /	Bags/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Bag	Inner Box	Outer Box
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension		(unit mm³)
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	[illegible]							

/ Notices

3MHZ



1 ≤3.0MHZ
2 ≤40V
3 ≤45W
4 HFE 60-70,70-80,80-90

1 HFE HFE 60-70 70-80 80-90
2 HFE

1 **Y**
2

3
3.1
3.2 ≤5kgf.cm
3.3 PCB
3.4
3.5