

/ Descriptions

Silicon NPN transistor in a TO-220 Plastic Package.

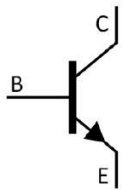
/ Features

Low collector-to-emitter saturation voltage, high-speed switching, high allowable power dissipation.

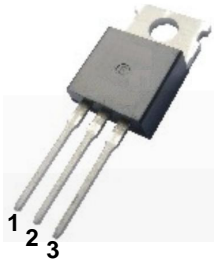
/ Applications

DC-DC converter, relay drivers, lamp drivers motor drivers.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

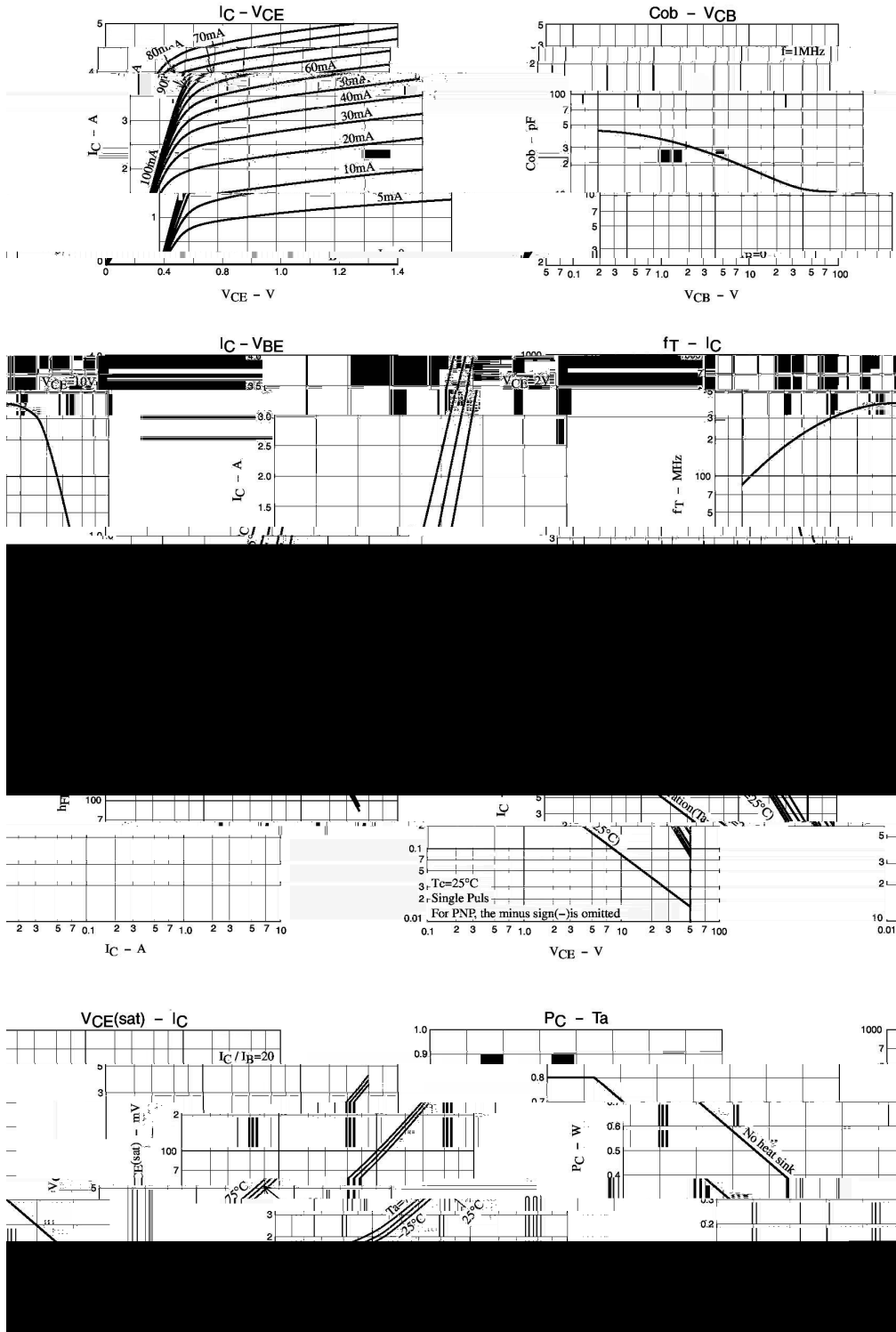
/ h_{FE} Classifications & Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	80	V
Collector to Emitter Voltage	V_{CEO}	50	V
Collector to Emitter Voltage	V_{CES}	80	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	5.0	A
Peak Collector Current	I_{CP}	7.5	A
Base Current - Continuous	I_B	1.2	A
Collector Power Dissipation	P_C	2	W
	$P_C(T_C=25^\circ\text{C})$	15	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

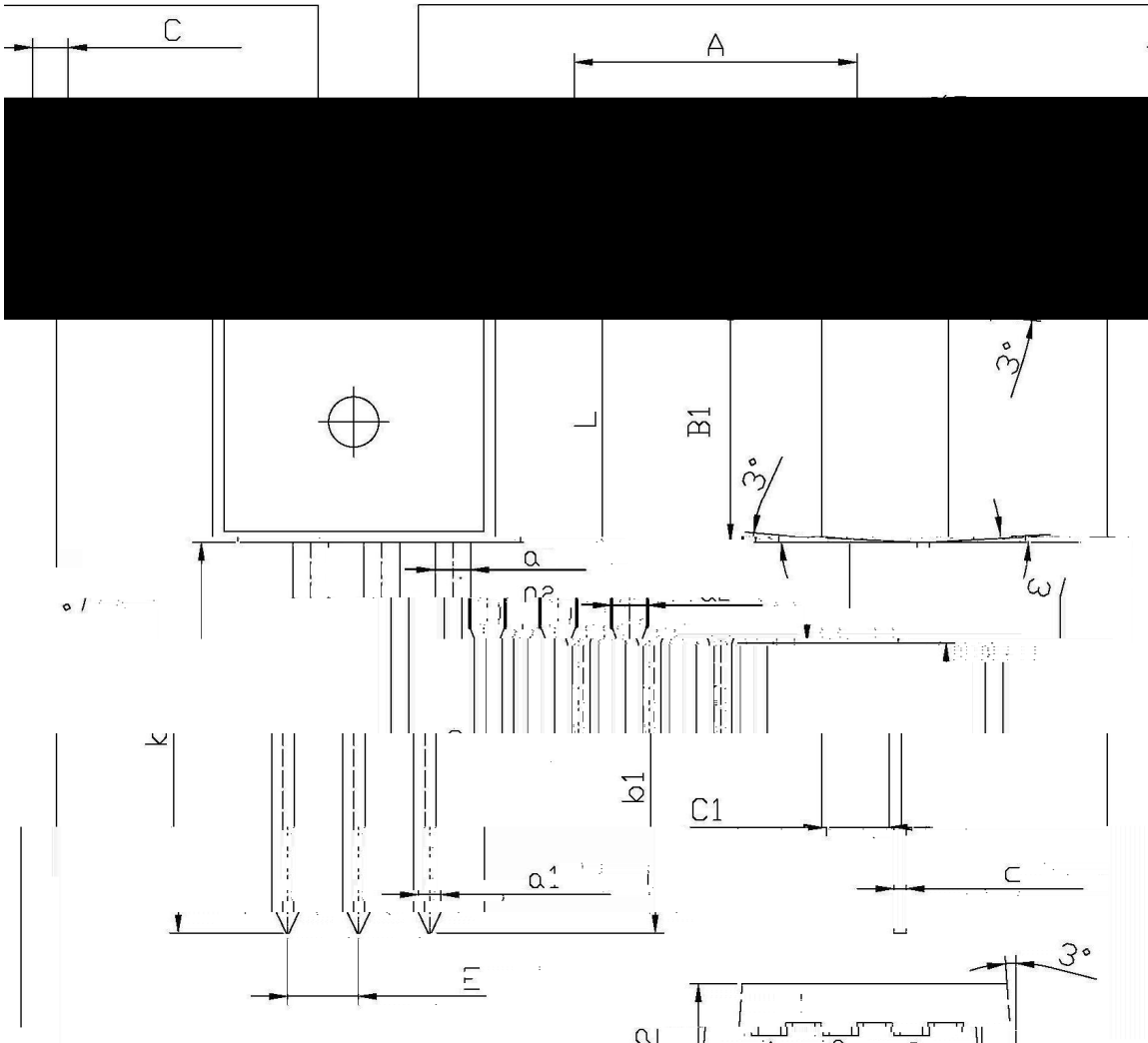
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=0.01\text{mA}$ $I_E=0$	80			V
Collector to Emitter Breakdown Voltage	V_{CES}	$I_C=0.1\text{mA}$ $R_{BE}=0$	80			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $R_{BE}=\infty$	50			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_C=0.01\text{mA}$ $I_B=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40\text{V}$ $I_E=0$			1.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4.0\text{V}$ $I_C=0$			1.0	μA
DC Current Gain	h_{FE}	$V_{CE}=2.0\text{V}$ $I_C=0.5\text{A}$	200		560	
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=1.0\text{A}$ $I_B=0.05\text{A}$		0.09	0.135	V
	$V_{CE(sat)(2)}$	$I_C=2.0\text{A}$ $I_B=0.1\text{A}$		0.16	0.24	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$V_{CE}=2.0\text{V}$ $I_C=0.1\text{A}$		0.89	1.2	V

/ Electrical Characteristic Curve



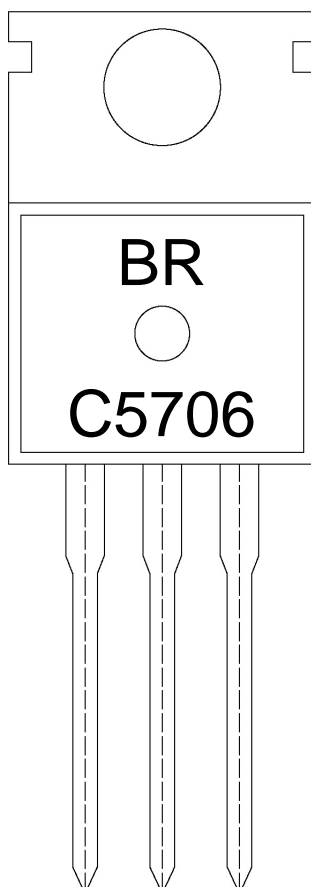
/ Package Dimensions

单位: mm TO-220 单



Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters	
	Min	Max		Min	Max
A	9.8	10.2	C	1.2	1.4
R	3.56	3.64	B	6.3	6.7
L	15.7	16.1	B1	9.0	9.4
n	1.74	2.0	n1	0.7	0.9
a	1.22	1.32	C1	4.3	4.7
E	2.34	2.74	C2	1.25	1.45
Q2	1.25	1.45			

/ Marking Instructions



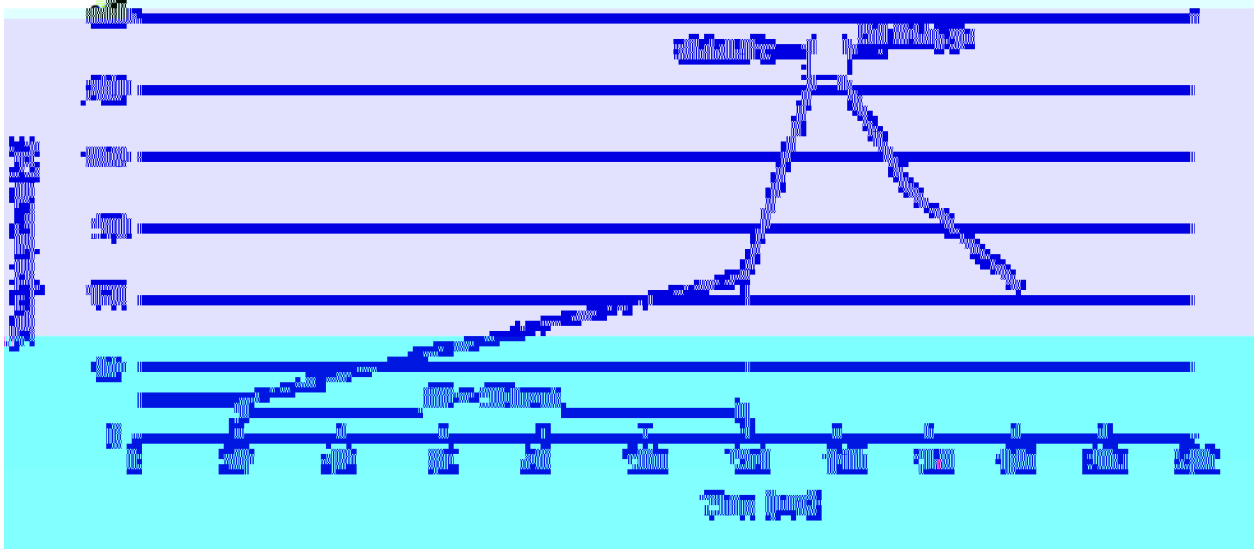
Note:

BR: Company Code

C5706: 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)		
	只袋	袋盒	只盒	盒箱	只箱	袋	盒	箱

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只套管	套管盒	只盒	盒箱	只箱	套管	盒	箱

/ Notices