

Rev.F Mar.-2016

TO-220F

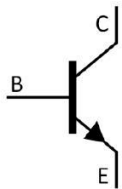
NPN

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

, 2SA940A

Wide Safe Operating Area, complementary to 2SA940A.

Power amplifier applications, vertical output applications.



PIN1 Base

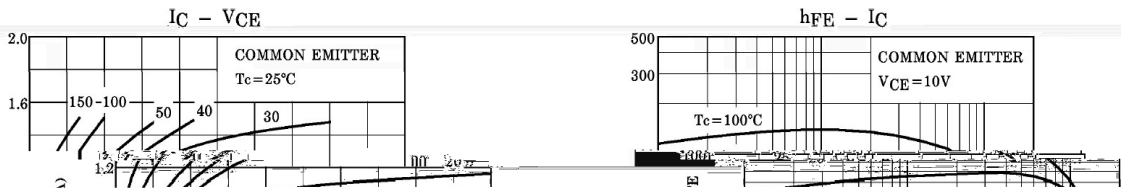
PIN 2 Collector

PIN 3 Emitter

See Marking Instructions.

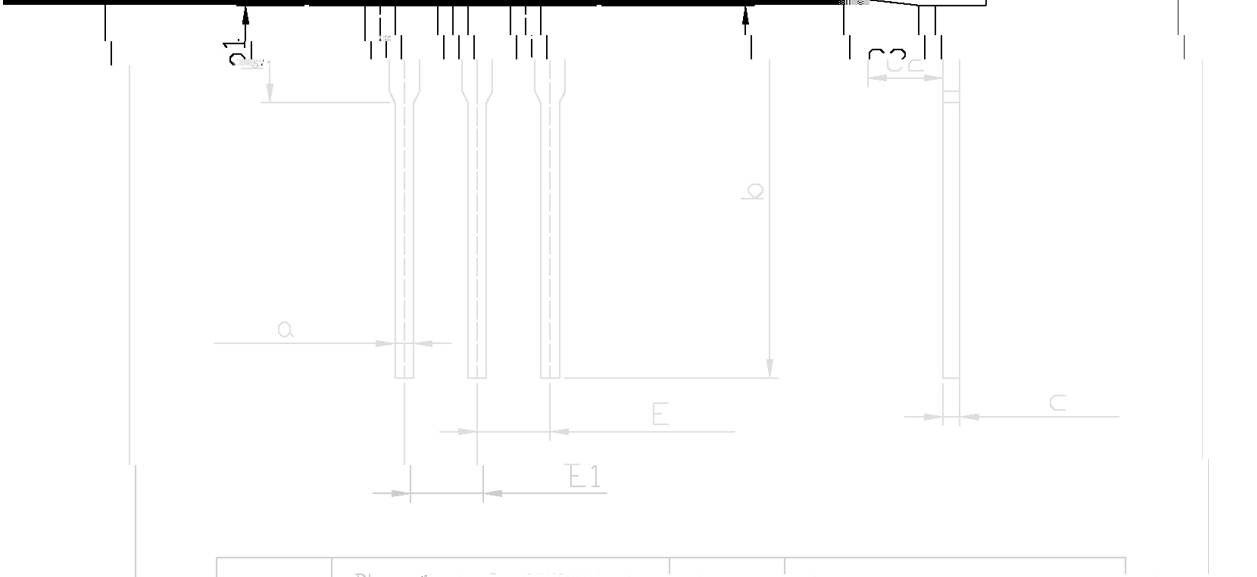
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	150	V
Collector to Emitter Voltage	$V_{CEO}$	150	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	1.5	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	2.0	W
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	25	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	$I_{CBO}$	$V_{CB}=120V$ $I_E=0$			10	A
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$ $I_C=0$			10	A
DC Current Gain	$h_{FE}$	$V_{CE}=10V$ $I_C=500mA$	40	75	140	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA$ $I_B=50mA$			1.5	V
Base to Emitter Voltage	$V_{BE}$	$V_{CE}=10V$ $I_C=500mA$	0.65	0.75	0.85	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=500mA$		4.0		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		35		pF

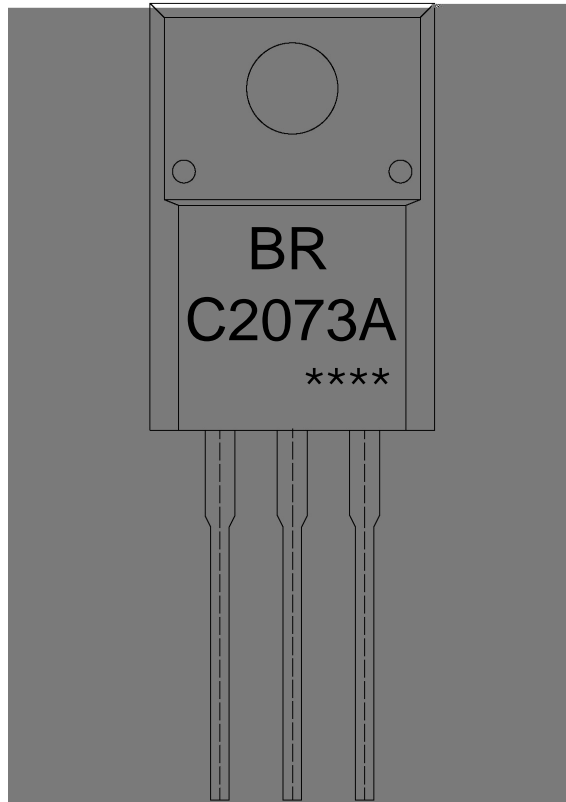


TO-220F

单位: mm



Dimensions in Millimeters			Dimensions in Millimeters		
Symbol	Min	Max	Symbol	Min	Max
C	4.3	4.7	b1	2.9	3.9
A	9.7	10.3	a	0.55	0.75
B	14.7	15.3	E	2.29	2.79
B1	3.8	4.0	E1	2.29	2.79
B2	2.9	3.1	C1	2.5	2.9
R	3.0	3.4	C2	2.5	2.7
b	12.5	13.5	c	0.5	0.7



BR

C2073A

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Note:

BR: Company Code.

C2073A: Product Type.

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


**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.            |

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

## / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	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 <sup>3</sup> )		
	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