

/ Descriptions

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

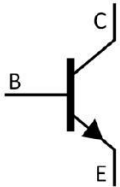
/ Features

Low $V_{CE(sat)}$, large current capacity.

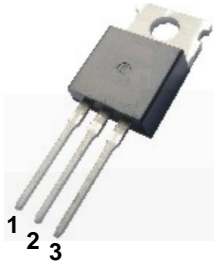
/ Applications

Suitable for relay drivers, high-speed inverters, converters, and other general large current switching applications.

/ Equivalent Circuit



/ Pinning



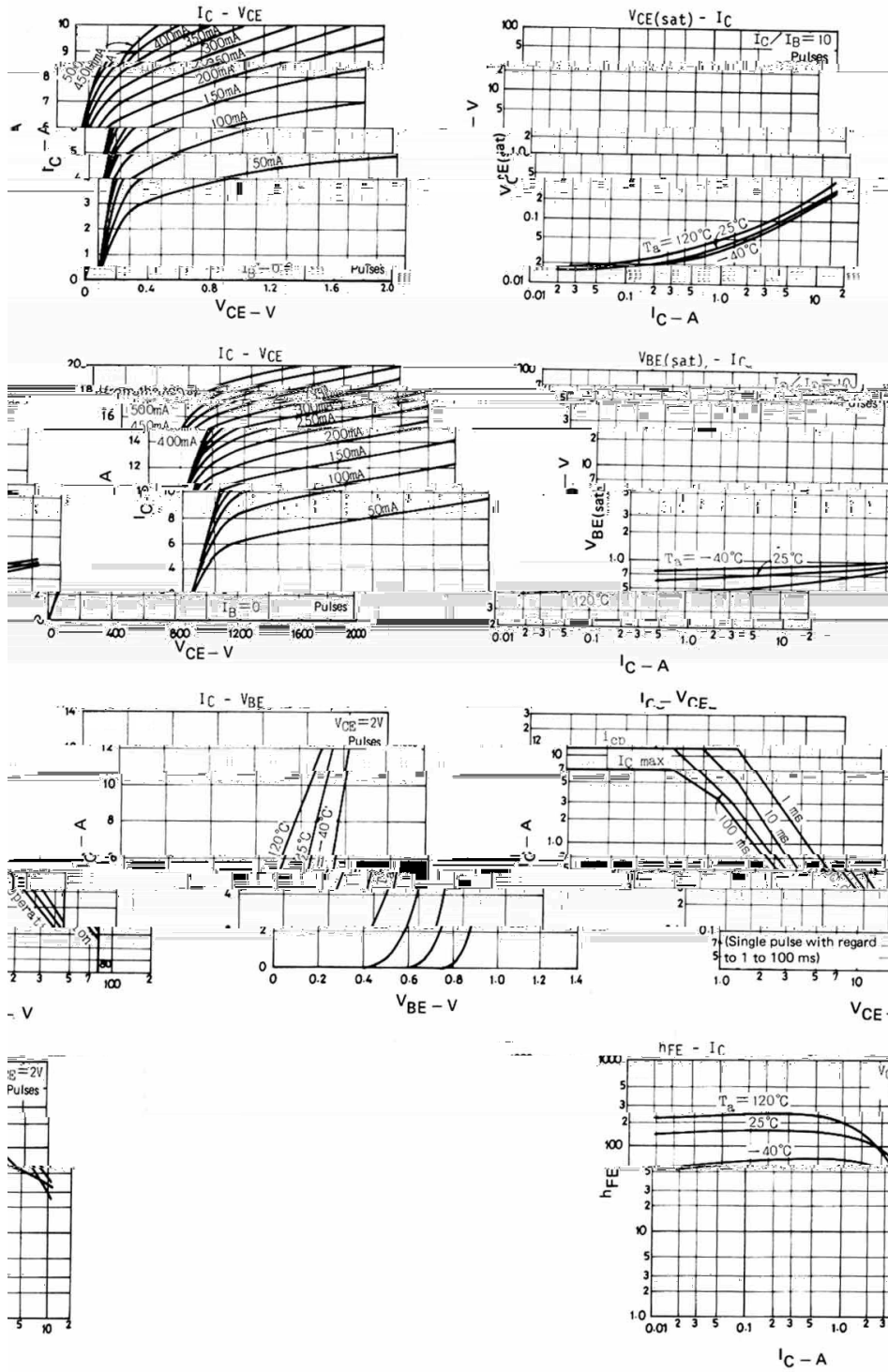
PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

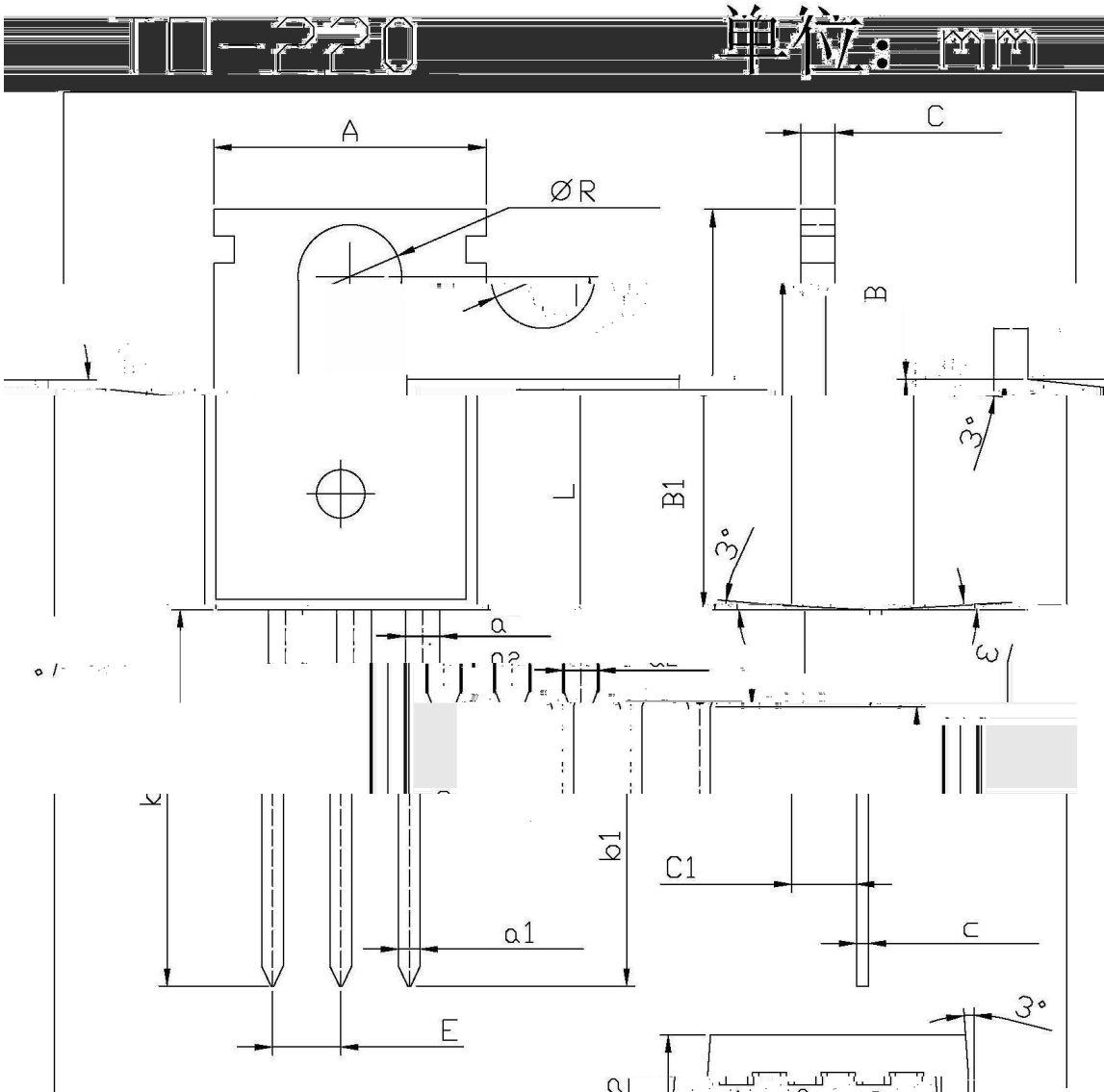
h_{FE} Classifications Symbol	Q	R	S
h_{FE} Range	70 140	100 200	140 280

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	90	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	7.0	A
Peak Collector Current	I_{CP}	12.0	A
Collector Power Dissipation	P_C	1.75	W
	$P_C(T_c=25^\circ\text{C})$	40	W
Junction Temperature	T_j	150	$^\circ\text{C}$

/ Electrical Characteristic Curve

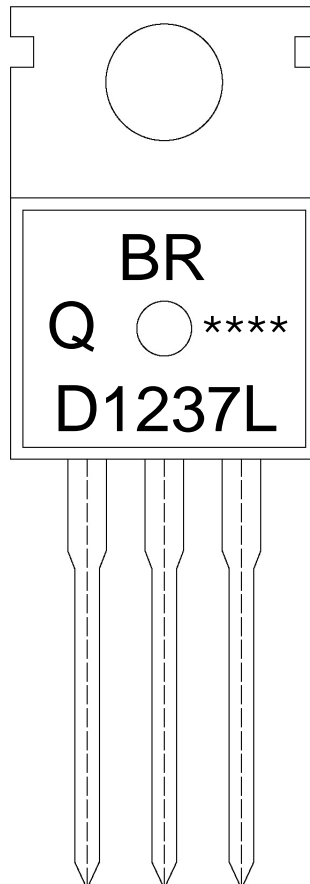


/ Package Dimensions



Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters	
	Min	Max		Min	Max
A	9.8	10.2	C	12.2	14.1
R	3.56	3.64	B	6.3	6.7
B1	9.0	9.4	L	15.7	16.1
C1	2.2	2.6	b	12.6	
E	10.6	10.9	b1	9.6	
a	10.4	10.6	a	12.2	
a1	4.3	4.7	E	2.34	
k	14.5		Ø	0.2	0.25

/ Marking Instructions



BR

D1237L

Q: h_{FE}

Note:

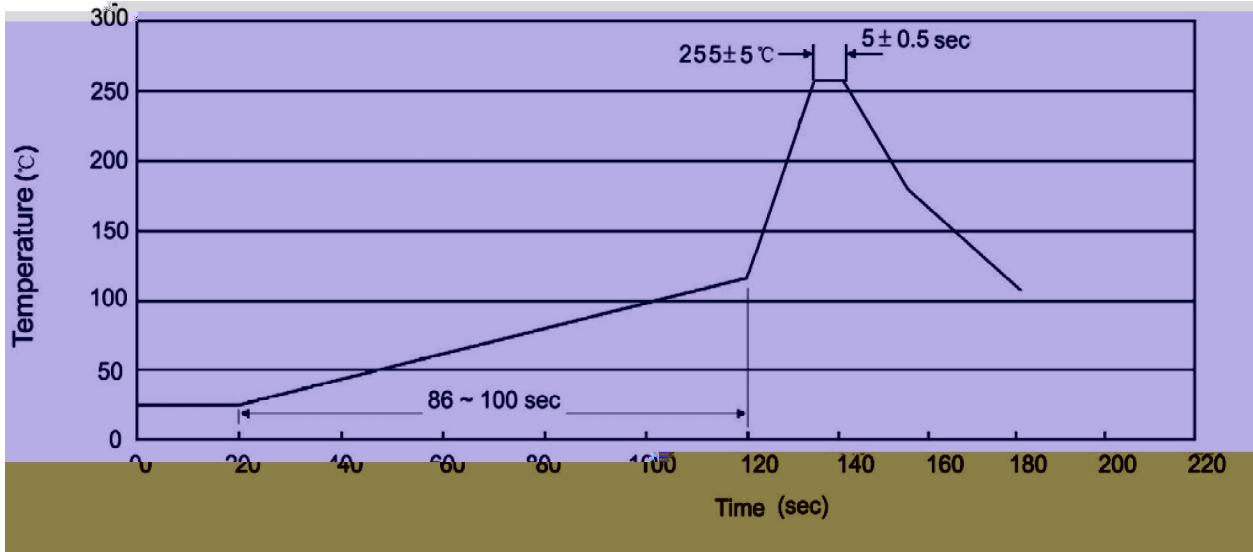
BR: Company Code

D1237L: Product Type.

Q: h_{FE} Classifications Symbol

****: 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°C Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
	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 mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices