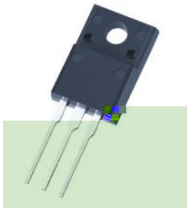


TO-220F          NPN          Silicon NPN transistor in a TO-220F Plastic Package.

High  $V_{CE0}$ , SOA, High transition frequency and small  $C_{ob}$ .

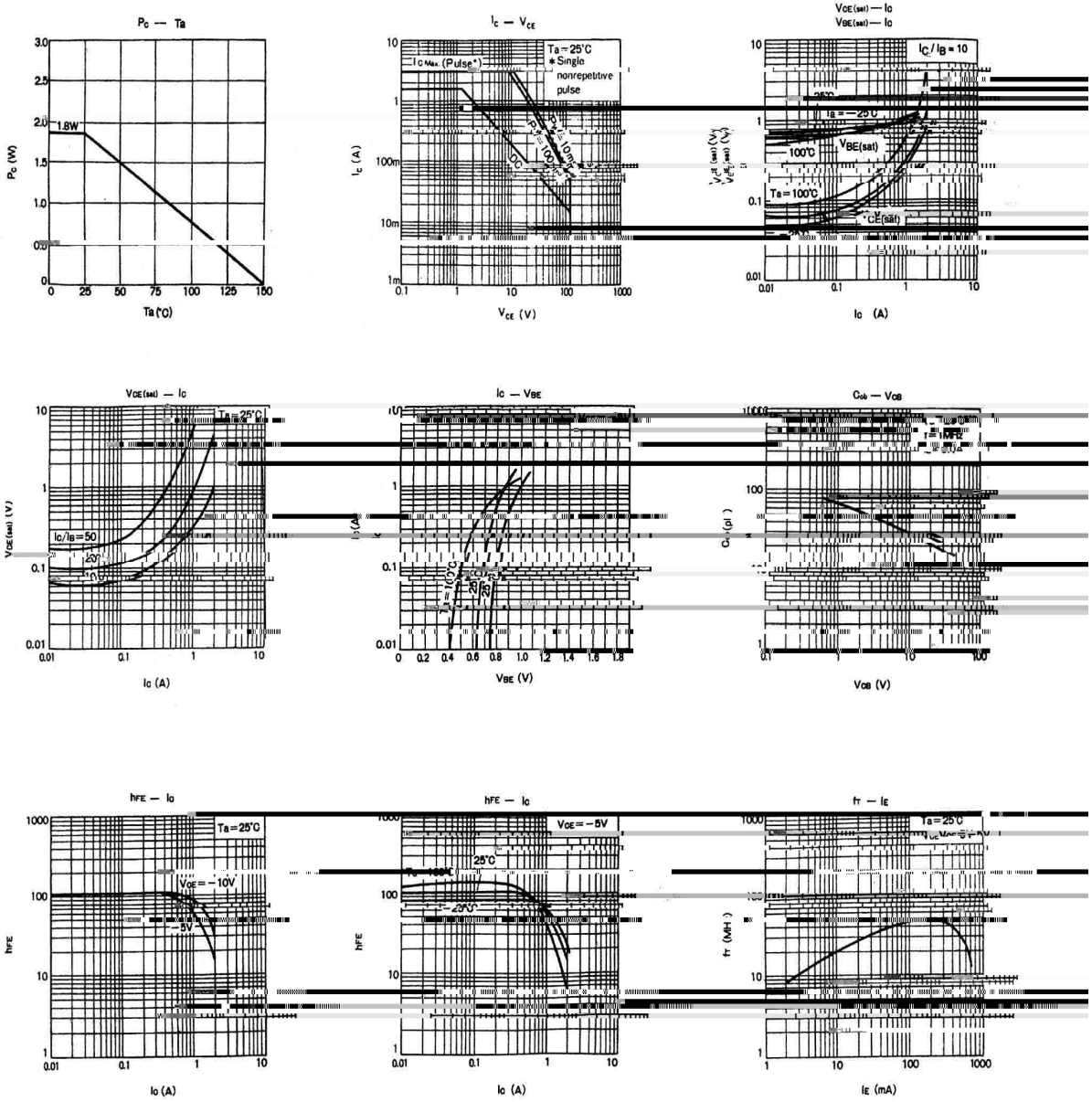
power amplifier applications.



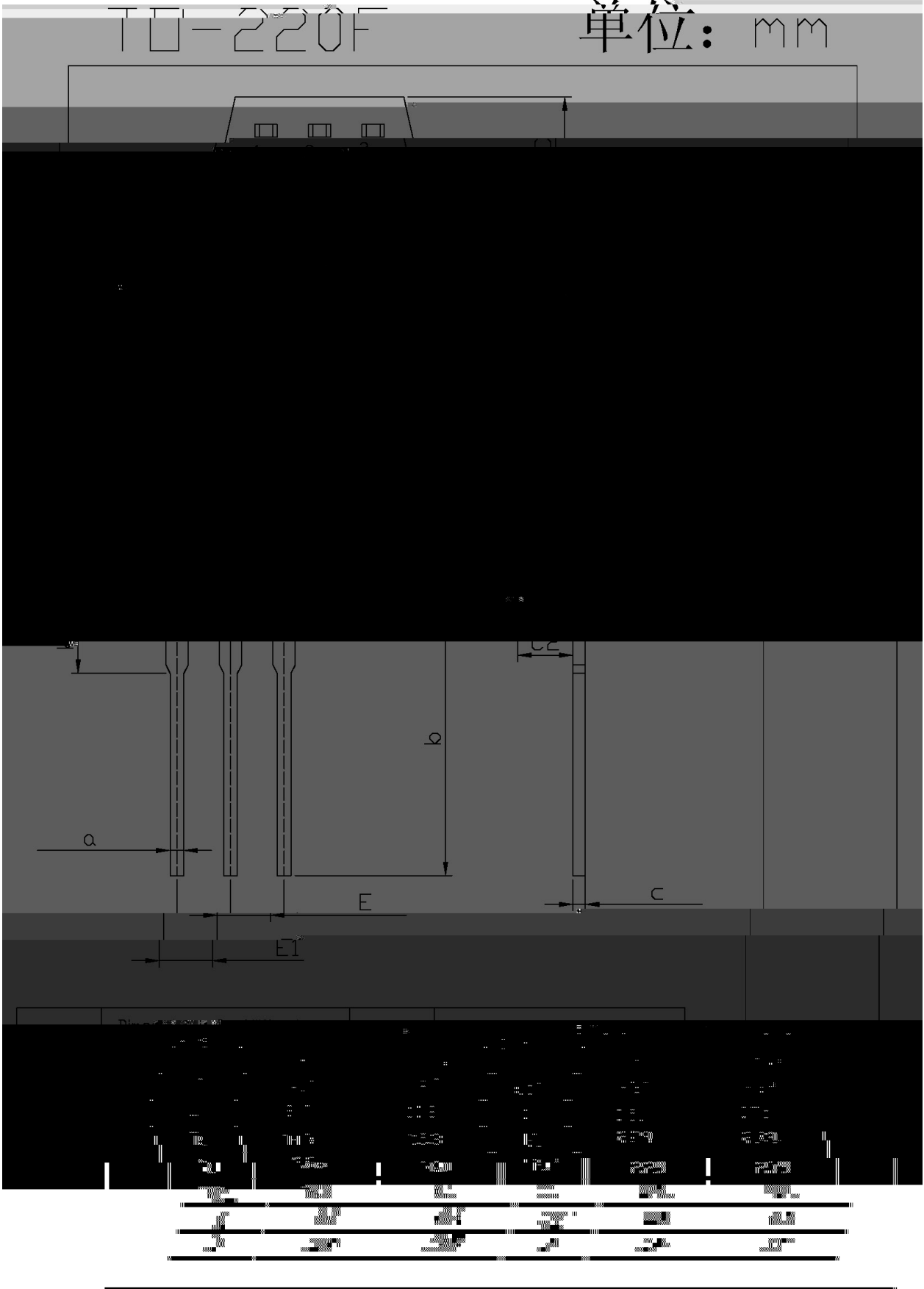
PIN1 Base          PIN 2  $\tilde{\sim}$ xF(6T2q)q7•

Parameter	Symbol	Rating	Unit
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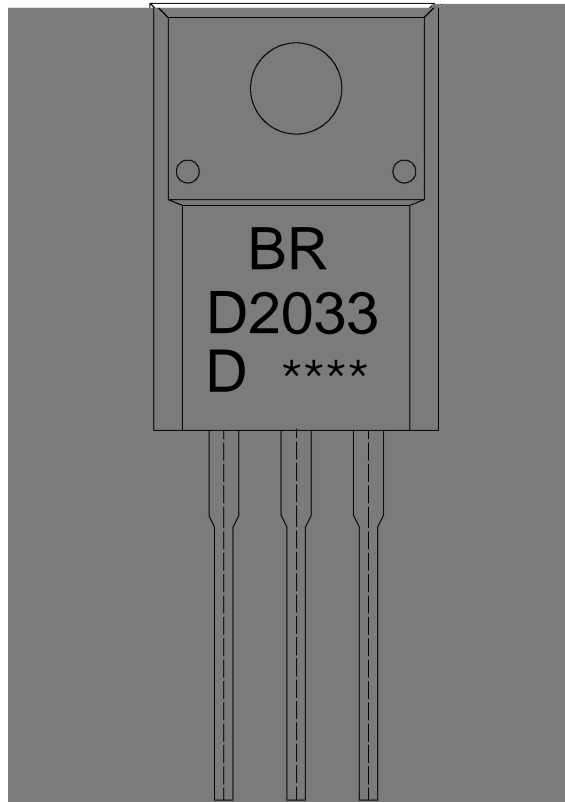
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



BR

D2033

D:  $h_{FE}$

\*\*\*\*

Note:

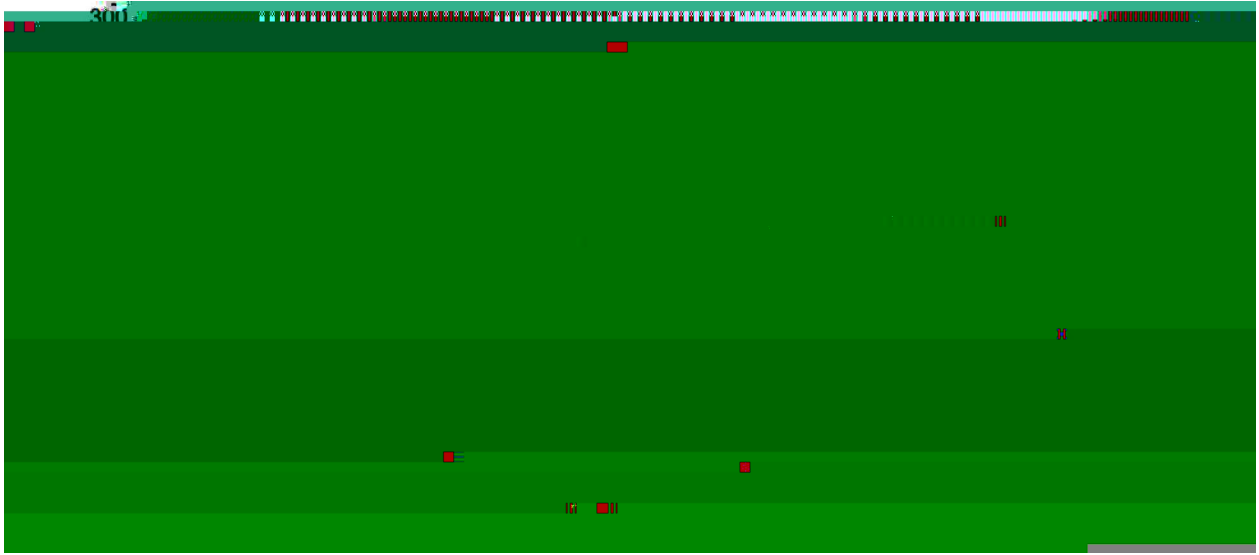
BR: Company Code.

D2033: Product Type.

D:  $h_{FE}$  Classifications Symbol

\*\*\*\*: 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±0.5 | sec;     |       | 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 <sup>3</sup> )		
	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 <sup>3</sup> )
Units/Tube T /		