

**2SC2216**  
Rev.E Mar.-2016

TO-92          NPN

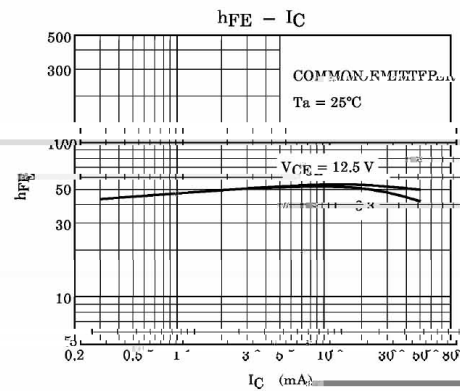
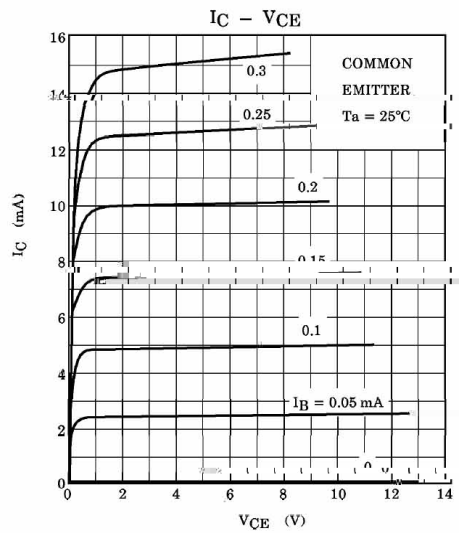
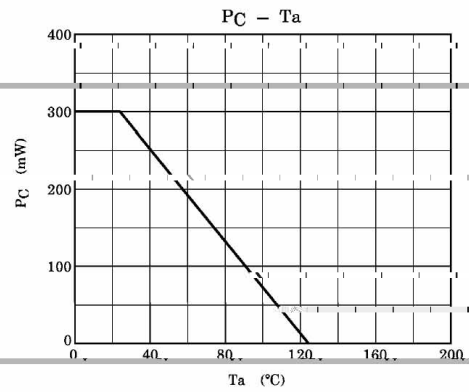
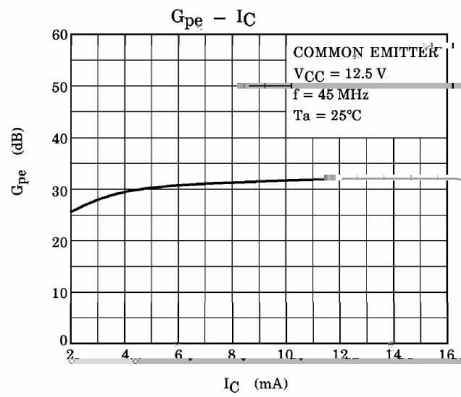
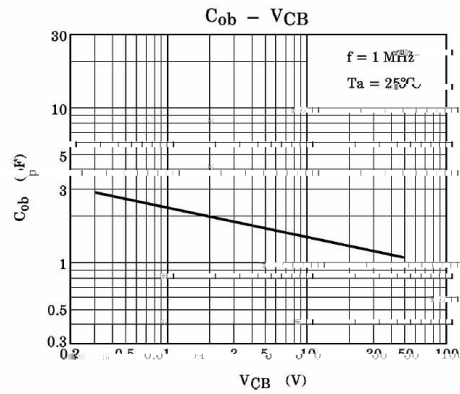
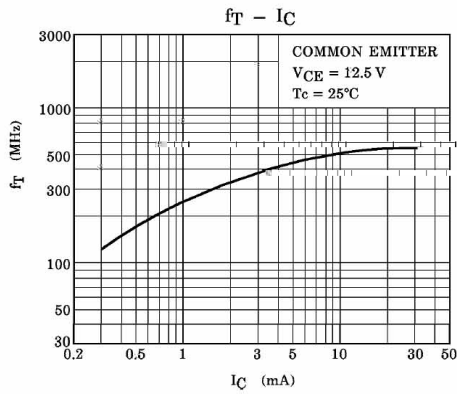
**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                      | Symbol    | Rating  | Unit |
|--------------------------------|-----------|---------|------|
| Collector to Base Voltage      | $V_{CBO}$ | 50      | V    |
| Collector to Emitter Voltage   | $V_{CEO}$ | 45      | V    |
| Emitter to Base Voltage        | $V_{EBO}$ | 4.0     | V    |
| Collector Current - Continuous | $I_C$     | 50      | mA   |
| Emitter Current - Continuous   | $I_E$     | -50     | mA   |
| Collector Power Dissipation    | $P_C$     | 300     | mW   |
| Junction Temperature           | $T_J$     | 150     |      |
| Storage Temperature Range      | $T_{stg}$ | -55 150 |      |

**/ Electrical Characteristics(Ta=25 )**

| Parameter                               | Symbol        | Test Conditions                        | Min | Typ | Max | Unit |
|-----------------------------------------|---------------|----------------------------------------|-----|-----|-----|------|
| Collector to Base Breakdown Voltage     | $V_{CBO}$     | $I_C=10mA$ $I_B=0$                     | 45  |     |     | V    |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=50V$ $I_E=0$                   |     |     | 0.1 | A    |
| Emitter Cut-Off Current                 | $I_{EBO}$     | $V_{EB}=3.0V$ $I_C=0$                  |     |     | 0.1 | A    |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=12.5V$ $I_C=12.5mA$            | 40  |     | 140 |      |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=15mA$ $I_B=1.5mA$                 |     |     | 0.2 | V    |
| Base to Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C=15mA$ $I_B=1.5mA$                 |     |     | 1.5 | V    |
| Transition Frequency                    | $f_T$         | $V_{CE}=12.5V$ $I_C=12.5mA$            | 300 |     |     | MHz  |
| Collector Output Capacitance            | $C_{ob}$      | $V_{CB}=10V$ $f=30MHz$ $I_E=0$         | 0.8 |     | 2.0 | pF   |
| Power Gain                              | $G_{pe}$      | $V_{CC}=12.5V$ $f=45MHz$ $I_E=-12.5mA$ | 29  |     | 36  | dB   |
| Collector- Base Time Constant           | $C_{C.rbb'}$  | $V_{CB}=10V$ $f=30MHz$ $I_E=-1.0mA$    |     |     | 25  | ps   |

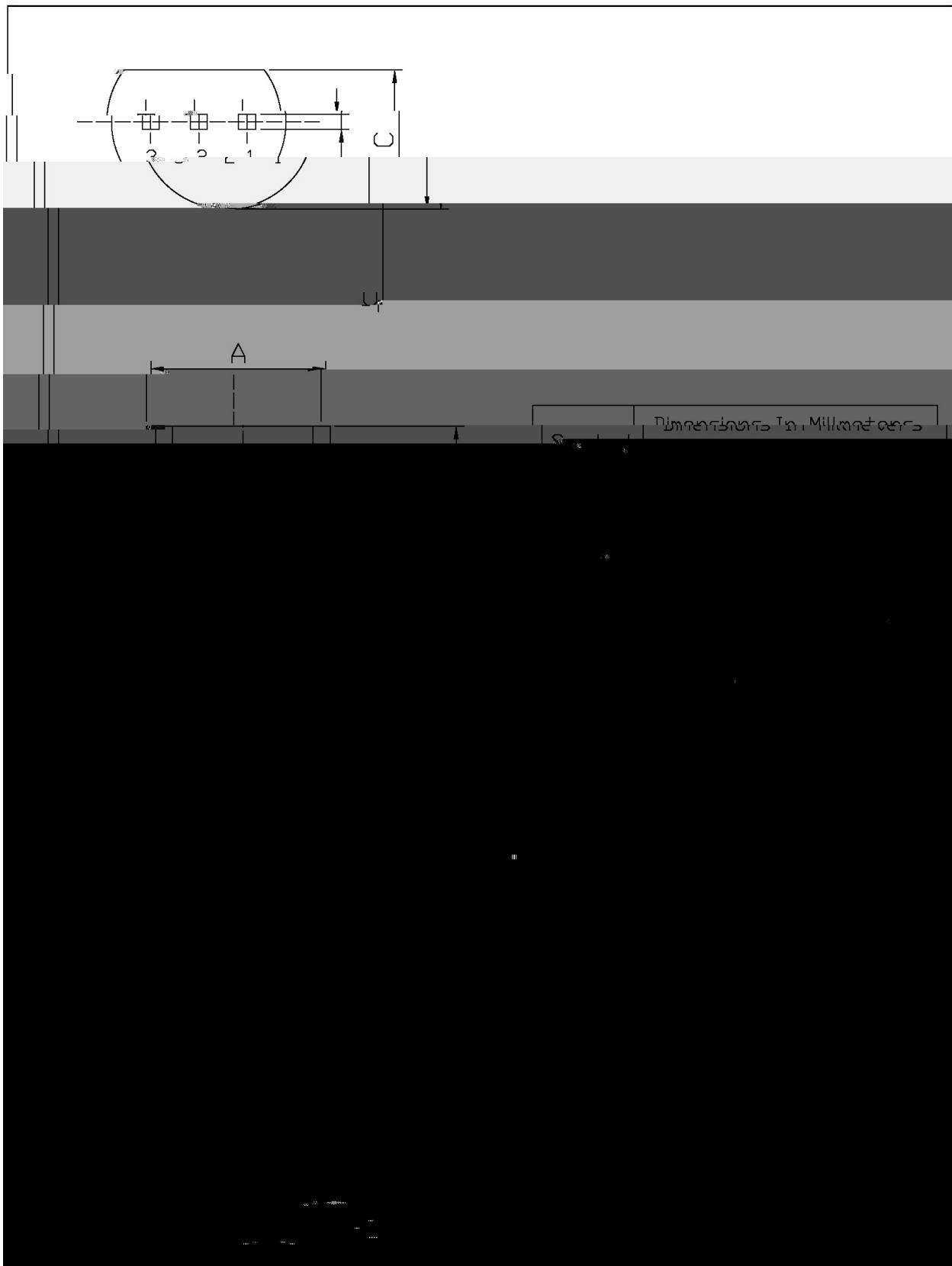
**/ Electrical Characteristic Curve**



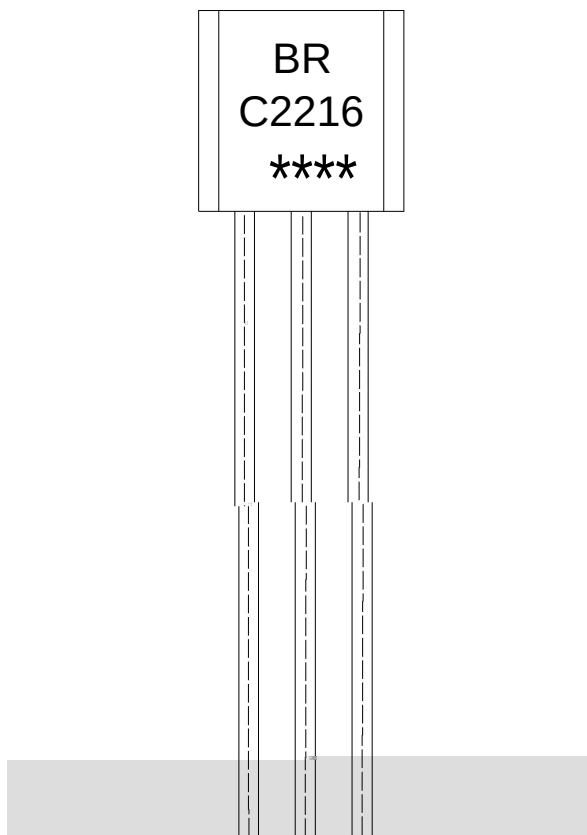
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



BR:

C2216

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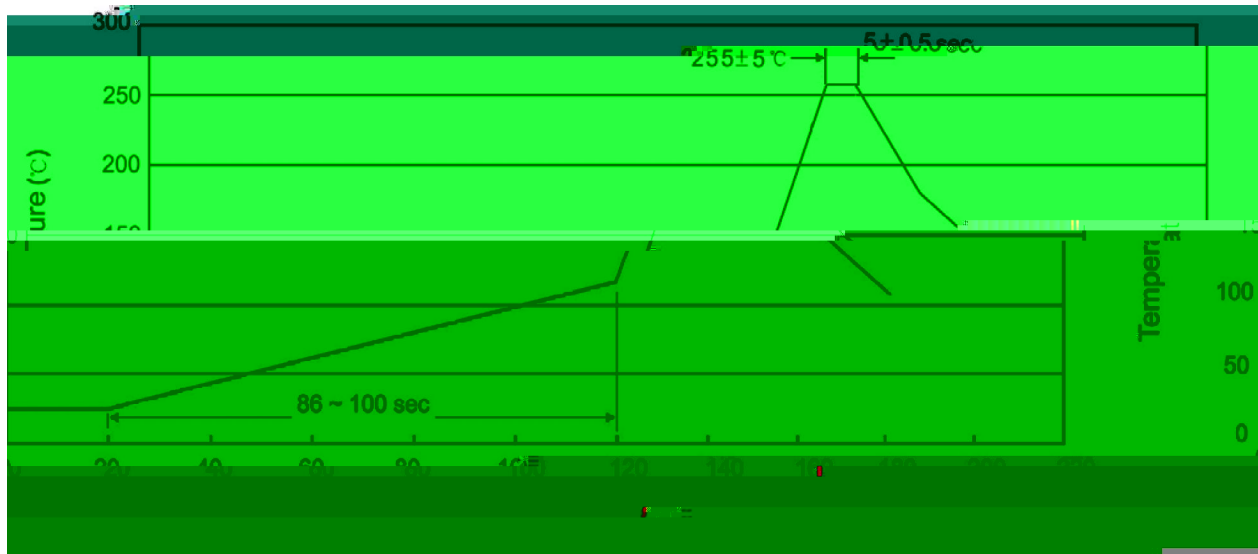
Note:

BR:                   Company Code.

C2216:             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 | Units          |                     |                      |                            |                      | Dimension (unit mm3) |             |             |
|--------------|----------------|---------------------|----------------------|----------------------------|----------------------|----------------------|-------------|-------------|
|              | Units/Bag<br>/ | Bags/Inner Box<br>/ | Units/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Bag                  | Inner Box   | Outer Box   |
| TO-92        | 1,000          | 10                  | 10,000               | 5                          | 50,000               | 135×190              | 237×172×102 | 560×245×195 |
|              | 1,000          | 10                  | 10,000               | 10                         | 100,000              | 135×190              | 237×172×102 | 560×245×375 |

/ AMMO

| Package Type | Units           |                     |                     |                            |                      | Dimension (unit mm3) |                            |
|--------------|-----------------|---------------------|---------------------|----------------------------|----------------------|----------------------|----------------------------|
|              | Units/tape<br>/ | Tape/Inner Box<br>/ | Rows/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Inner Box            | Outer Box                  |
| TO-92        | 3,000           | 1                   | 120                 | 10                         | 30,000               | 328×230×42           | 480×346×235<br>547×407×268 |

/ Notices