

# BRGB75L65AHA

Rev.B May.-2026

## 描述 / Descriptions

TO-247

Insulated-Gate Bipolar Transistor in a TO-247 Plastic Package.

## 特点 / Features

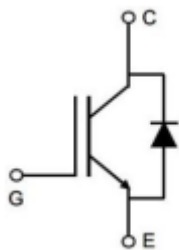
$V_{CES} = 650V$   $I_C (T_C = 100^\circ C) = 75A$

$V_{CE(SAT)} = 2.00V(\text{typ.}) @ V_{GE} = 15V, I_C = 75A$

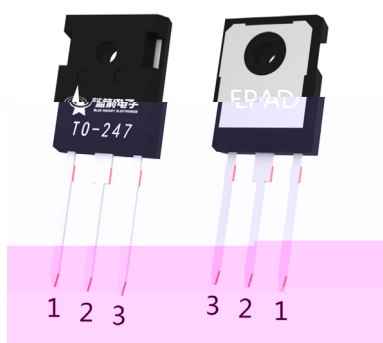
## 应用 / Applications

Motor driver, Uninterrupted Power Supply, Boost, Portable power station.

## 等效电路 / Equivalent Circuit



## 引脚 / Pinning



PIN1 G      PIN 2 EPAD C      PIN 3 E

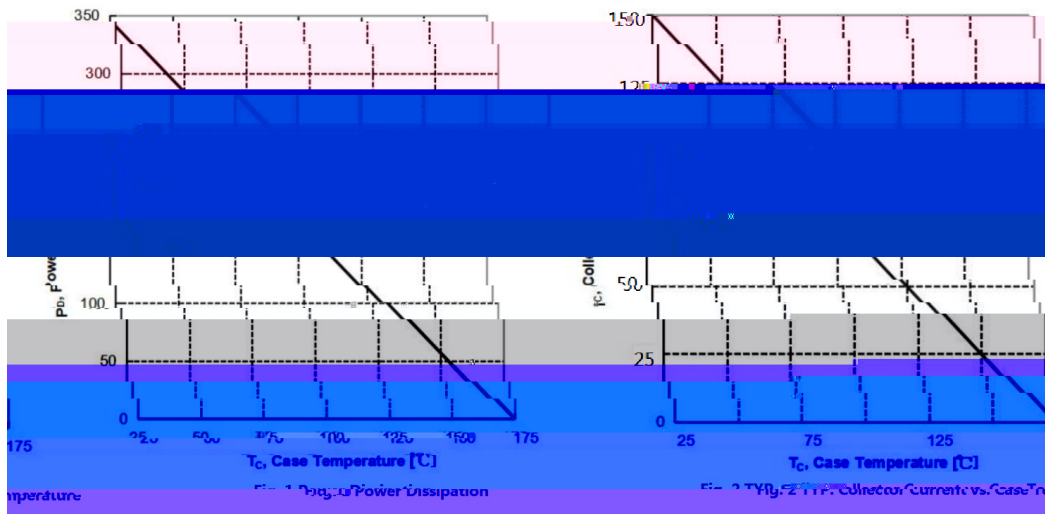
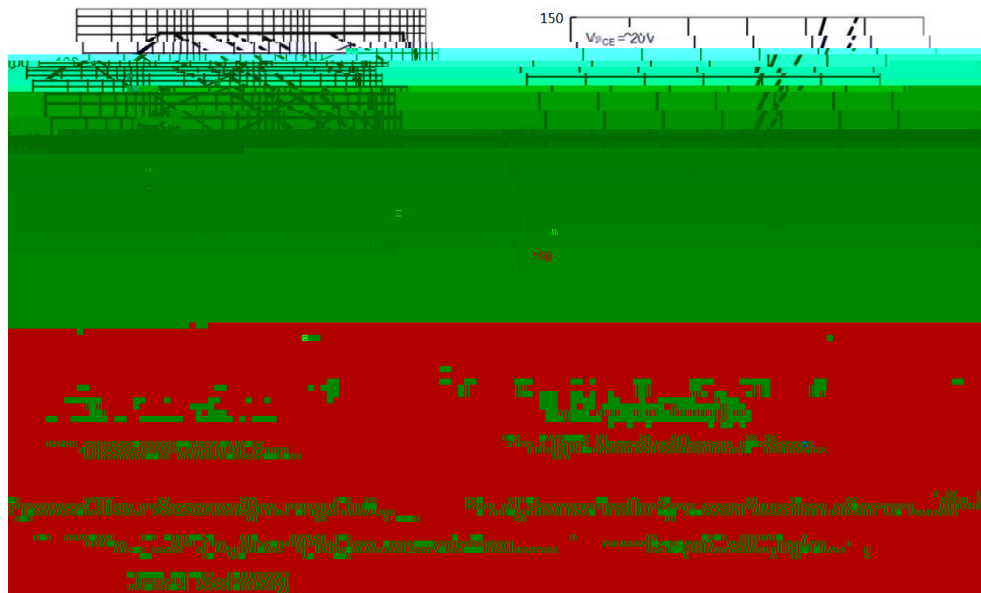
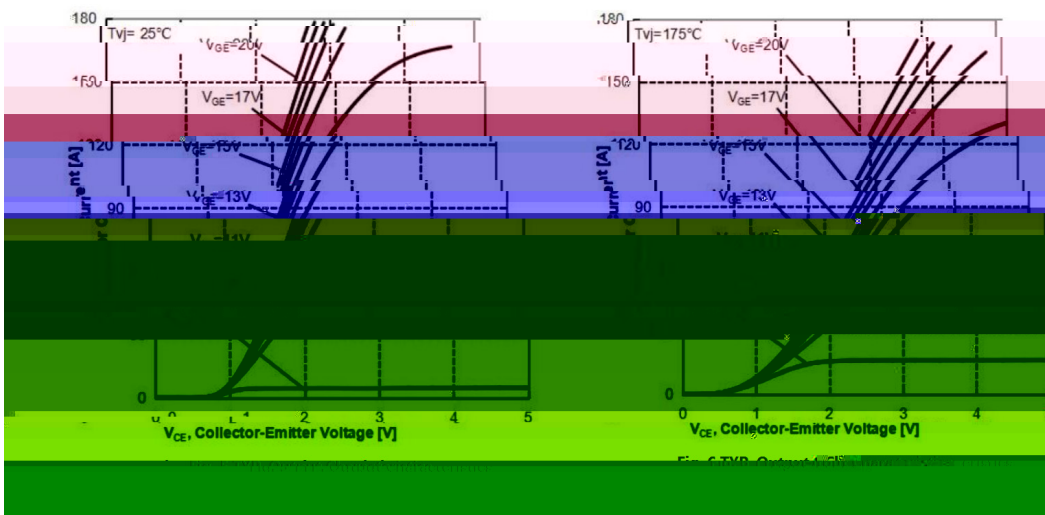
## 标记 / Marking

See Marking Instructions.

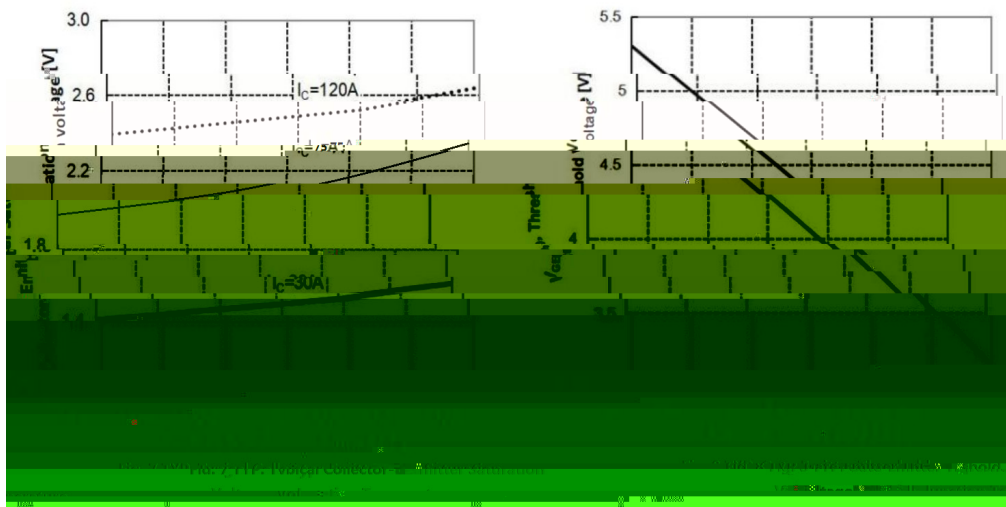
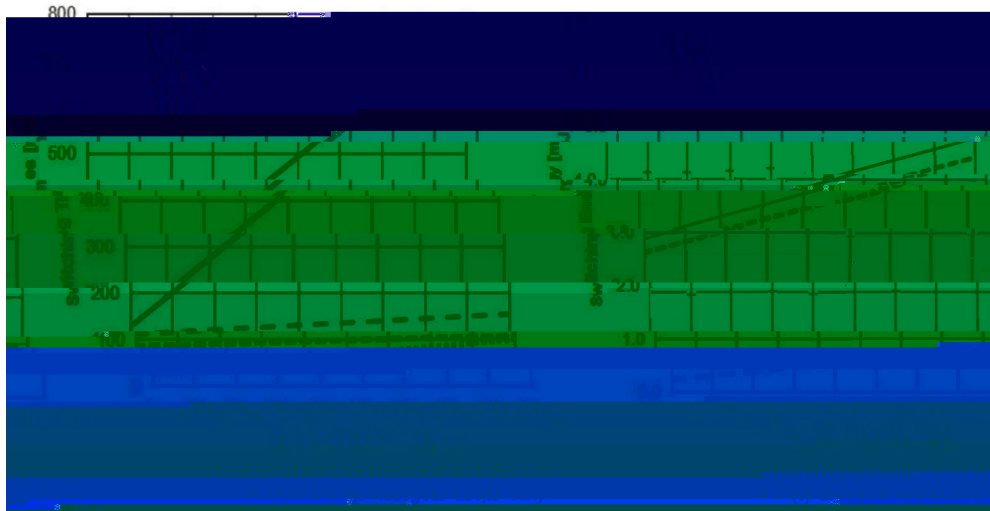
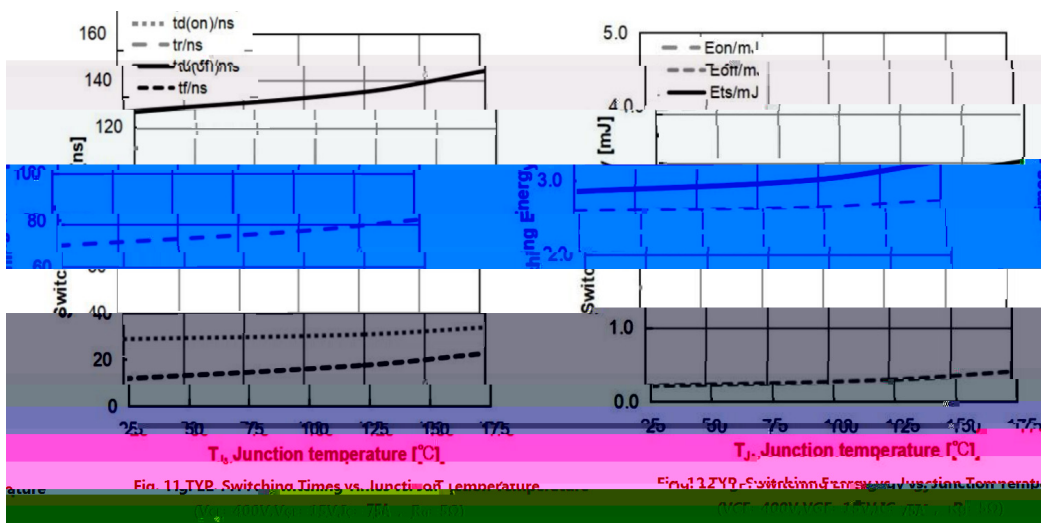
|                      |           | Symbol          | Rating      | Unit    |
|----------------------|-----------|-----------------|-------------|---------|
|                      |           | $V_{CES}$       | 650         | V       |
|                      |           | $V_{GES}$       | 30          | V       |
|                      | $T_C=25$  | $I_C$           | 150         | A       |
|                      | $T_C=100$ |                 | 75          | A       |
| imited by $T_{Jmax}$ |           | $I_{CM}$        | 300         | A       |
|                      | $T_C=25$  | $I_F$           | 150         | A       |
|                      | $T_C=100$ |                 | 75          | A       |
| ward Current         |           | $I_{FRM}$       | 300         | A       |
|                      |           | $t_{sc}$        | 8           | $\mu s$ |
|                      | $T_C=25$  | $P_D$           | 341         | W       |
| Soldering            |           | $T_L$           | 260         |         |
| ture Range           |           | $T_J$           | -40 to +175 |         |
|                      |           | $T_{STG}$       | -55 to +175 |         |
| nt                   |           | $R_{\theta JA}$ | 40          | /W      |
| Case                 |           | $R_{\theta JC}$ | 0.55        | /W      |
| Case                 |           | $R_{\theta JC}$ | 1.44        | /W      |

|        | Symbol        | Test Conditions                    | Min       | Typ  | Max  | Unit    |
|--------|---------------|------------------------------------|-----------|------|------|---------|
|        | $BV_{CES}$    | $I_C=1mA, V_{GE}=0V$               | 650       |      |      | V       |
| urrent | $I_{CES}$     | $V_{CE}=650V, V_{GE}=0V$           |           |      | 10   | $\mu A$ |
|        | $I_{GES}$     | $V_{CE}=0V, V_{GE}=\pm 20V$        |           |      | 200  | nA      |
| e      | $V_{GE(th)}$  | $I_C=1.0mA, V_{GE}=0V$             | 4.3       | 5.3  | 6.3  | V       |
| oltage | $V_{CE(sat)}$ | $V_{GE}=15V, I_C=75A$              | $T_J=25$  | 2.00 | 2.30 | V       |
|        |               |                                    | $T_J=125$ | 2.23 |      |         |
|        |               |                                    | $T_J=175$ | 2.37 |      |         |
|        | $Q_g$         | $V_{GE}=15V, V_{CC}=520V, I_C=75A$ |           | 167  |      | nC      |

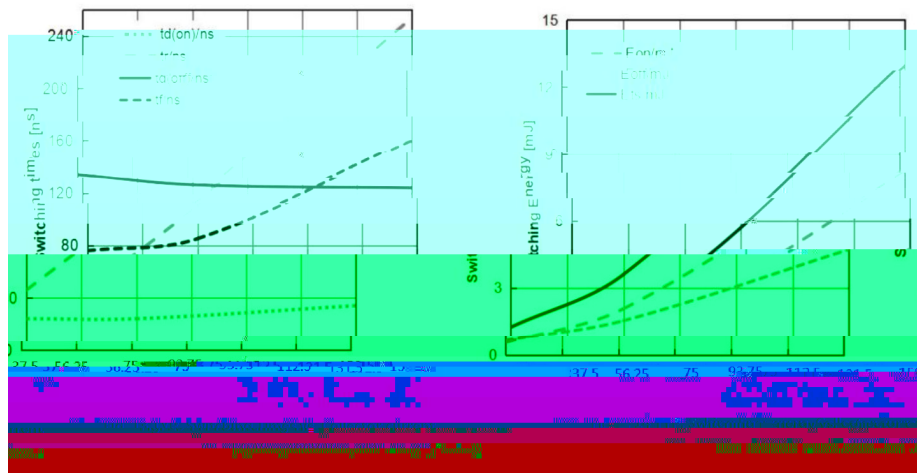
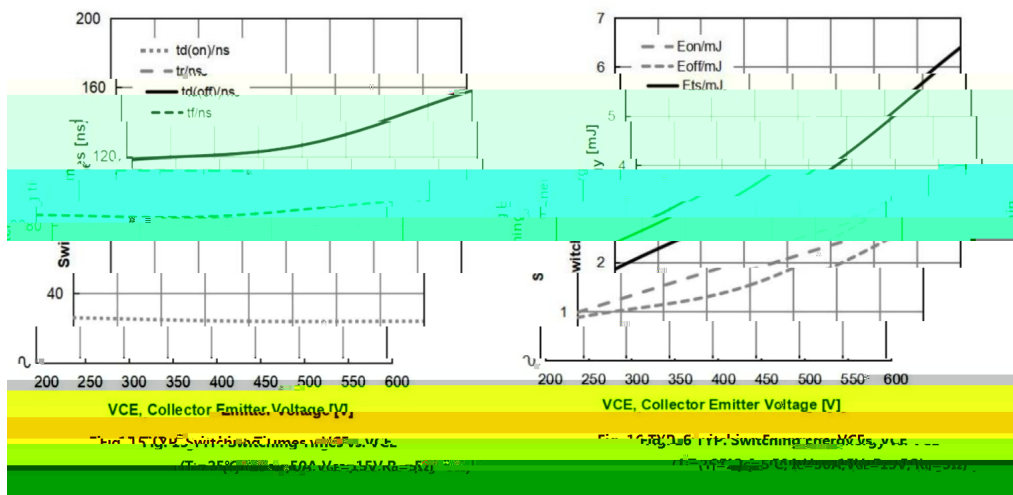
| Unit |
|------|
| ns   |
| ns   |
| ns   |
| ns   |
| ns   |
| ns   |
| ns   |
| ns   |
| ns   |
| mJ   |
| mJ   |
| mJ   |

**电 气 特 性 曲 线 / Electrical Characteristic Curve**


# Electrical Characteristic Curve



## Electrical Characteristic Curve



Electrical Characteristic Curve

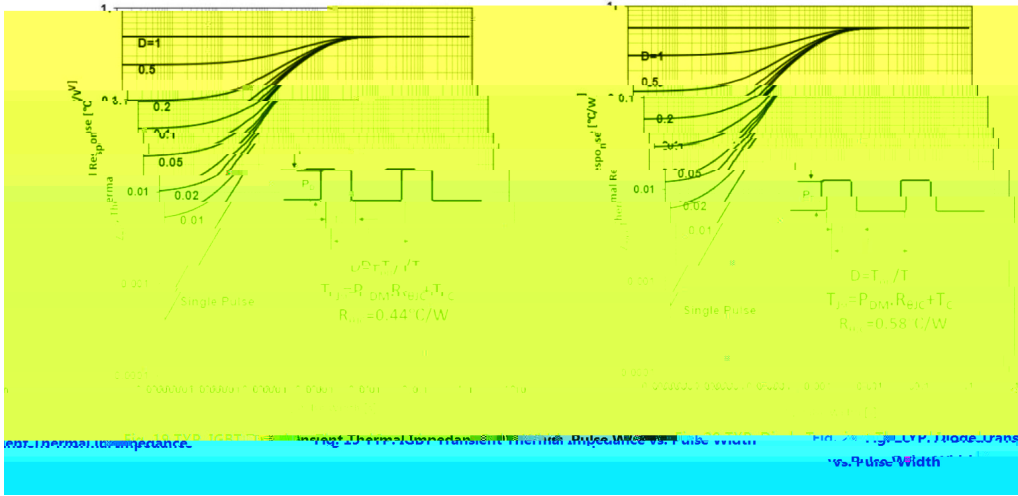
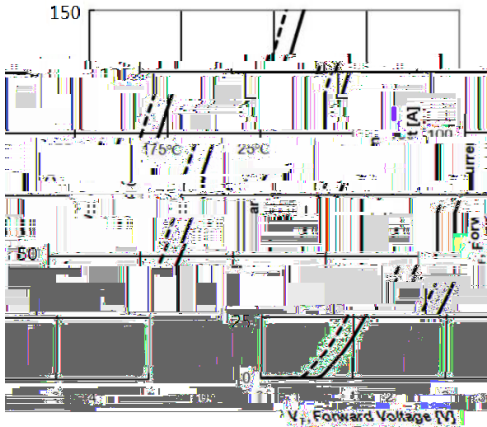
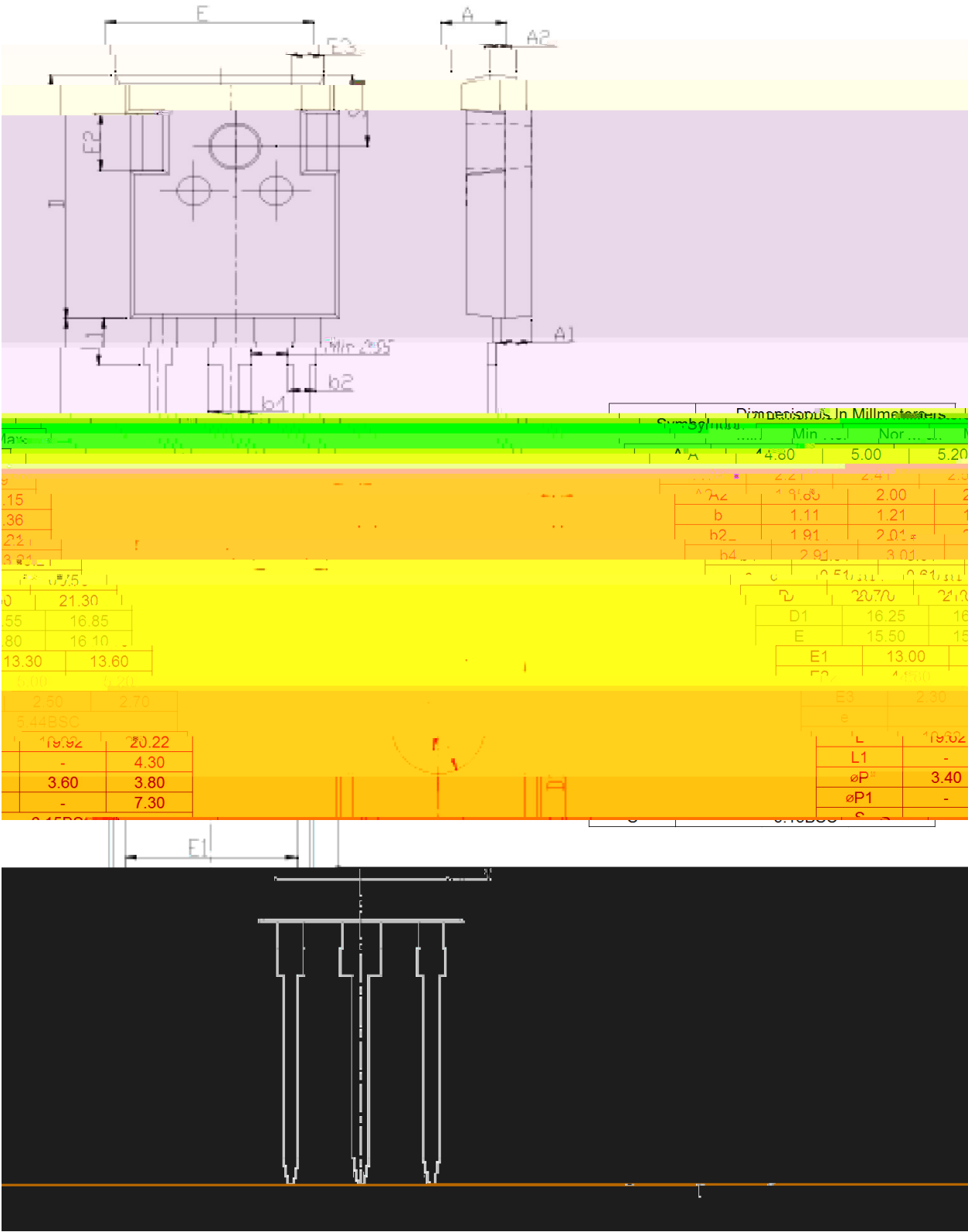
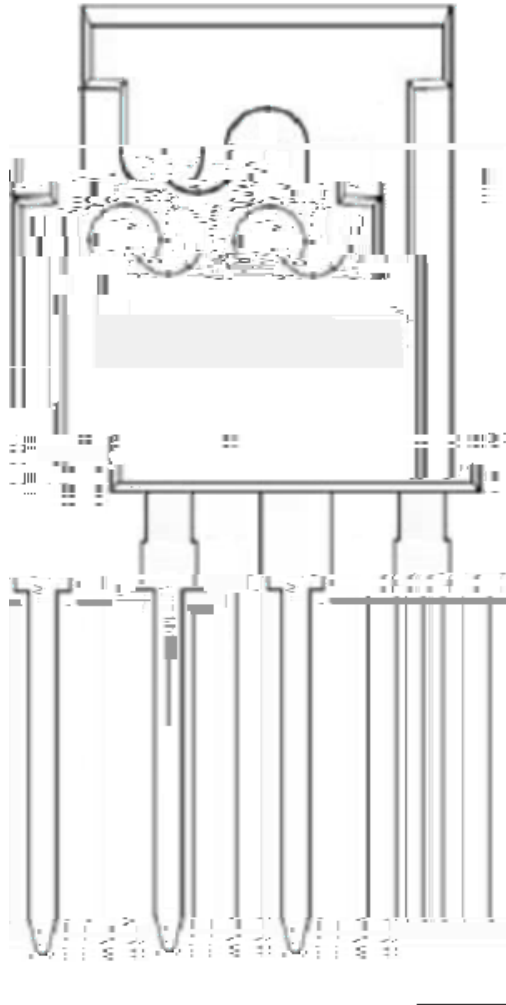


Fig. 21 TYP. Forward characteristic of Diode

⌘ È Ò Ì f / Package Dimensions



## 4. L'Ω / Marking Instructions



BR

GB75L65AH Y

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### ↓ \$ 71 W'E V f (Q'Z) / Temperature Profile for Dip Soldering(Pb-Free)

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|  |
|  |

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.            |

### ↓ 0 q 2 `Y T / Resistance to Soldering Heat Test Conditions

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

### 9 E 2 — / Packaging SPEC.

/ TUBE

| Package Type | Units           |                      |                      |                            |                      | Dimension (unit mm <sup>3</sup> ) |            |             |
|--------------|-----------------|----------------------|----------------------|----------------------------|----------------------|-----------------------------------|------------|-------------|
|              | Units/Tube<br>/ | Tubes/Inner Box<br>/ | Units/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Tube                              | Inner Box  | Outer Box   |
| TO-247       | 30              | 15                   | 450                  | 5                          | 2250                 | 520×44×6                          | 580×158×55 | 595×300×178 |