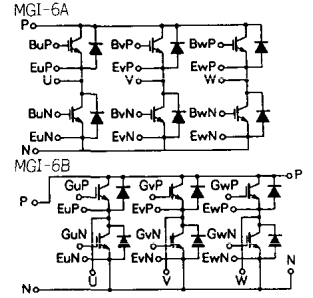
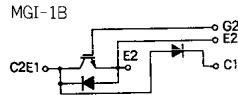
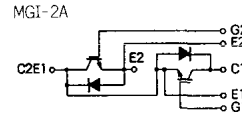
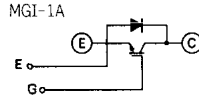


トランジスタ・モジュール (シリコンNチャネル IGBT)

- フリーホイール・ダイオード付
- 絶縁形

■等価回路

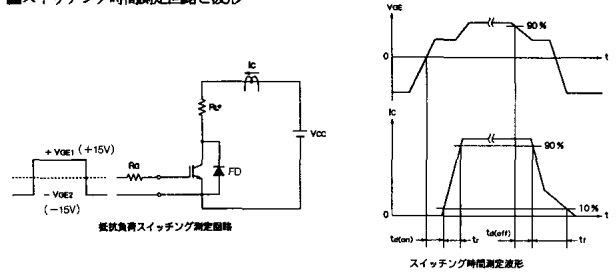


注1. $T_c = 25^\circ\text{C}$. 注2. AC, 1分間。

| 型名 | 最大定格 ($T_J = 25^\circ\text{C}$) | | | | | | | | | | 電気的特性 ($T_J = 25^\circ\text{C}$) | | | | | | | | | | |
|--------------|-----------------------------------|------------|-------|----------|-------|----------|-------|----------------------|----------------------|-----------|------------------------------------|-----------|-----------|-------|---------------|---------------|-------|-----|-----|----|-----|
| | V_{CES} | V_{GESS} | I_C | I_{CP} | I_F | I_{FP} | P_C | T_J | T_{max} | V_{max} | I_{GFS} | I_{CES} | V_{CES} | I_C | $V_{GE(OFF)}$ | $V_{CE(SAT)}$ | I_C | | | | |
| | (V) | (V) | (A) | (A) | (A) | (A) | (W) | ($^\circ\text{C}$) | ($^\circ\text{C}$) | (V) | (nA) | (mA) | (V) | (mA) | (V) | (V) | (mA) | | | | |
| CM50DY-12E | 600 | ± 20 | 50 | 100 | 50 | 100 | 250 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 5.0 | 3.5 | 15 | 50 |
| CM75DY-12E | 600 | ± 20 | 75 | 150 | 75 | 150 | 310 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 7.5 | 3.5 | 15 | 75 |
| CM100DY-12E | 600 | ± 20 | 100 | 200 | 100 | 200 | 400 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 10 | 3.5 | 15 | 100 |
| CM150DY-12E | 600 | ± 20 | 150 | 300 | 150 | 300 | 600 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 15 | 3.5 | 15 | 150 |
| CM200DY-12E | 600 | ± 20 | 200 | 400 | 200 | 400 | 780 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 20 | 3.5 | 15 | 200 |
| CM300DY-12E | 600 | ± 20 | 300 | 600 | 300 | 600 | 1100 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 30 | 3.5 | 15 | 300 |
| CM400DY-12E | 600 | ± 20 | 400 | 800 | 400 | 800 | 1500 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 40 | 3.5 | 15 | 400 |
| CM50E3Y-12E | 600 | ± 20 | 50 | 100 | 50 | 100 | 250 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 5.0 | 3.5 | 15 | 50 |
| CM75E3Y-12E | 600 | ± 20 | 75 | 150 | 75 | 150 | 310 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 7.5 | 3.5 | 15 | 75 |
| CM100E3Y-12E | 600 | ± 20 | 100 | 200 | 100 | 200 | 400 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 10 | 3.5 | 15 | 100 |
| CM150E3Y-12E | 600 | ± 20 | 150 | 300 | 150 | 300 | 600 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 15 | 3.5 | 15 | 150 |
| CM200E3Y-12E | 600 | ± 20 | 200 | 400 | 200 | 400 | 780 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 20 | 3.5 | 15 | 200 |
| CM300E3Y-12E | 600 | ± 20 | 300 | 600 | 300 | 600 | 1100 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 30 | 3.5 | 15 | 300 |
| CM300HA-12E | 600 | ± 20 | 300 | 600 | 300 | 600 | 1100 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 30 | 3.5 | 15 | 300 |
| CM400HA-12E | 600 | ± 20 | 400 | 800 | 400 | 800 | 1500 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 40 | 3.5 | 15 | 400 |
| CM50TF-12E | 600 | ± 20 | 50 | 100 | 50 | 100 | 250 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 5.0 | 3.5 | 15 | 50 |
| CM75TF-12E | 600 | ± 20 | 75 | 150 | 75 | 150 | 310 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 7.5 | 3.5 | 15 | 75 |
| CM100TF-12E | 600 | ± 20 | 100 | 200 | 100 | 200 | 400 | 150 | -40~125 | 2500 | ± 500 | ± 20 | 1.0 | 600 | 3.5 | 6.5 | 10 | 10 | 3.5 | 15 | 100 |

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■スイッチング時間測定回路と波形



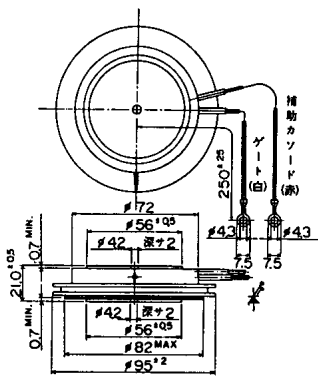
注3. スwitchング時間は抵抗負荷時の値。

注4. FD:フリーホイール・ダイオード。

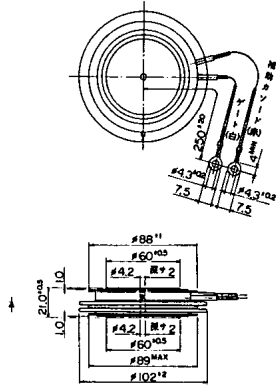
| C _{ies} (pF) | スイッチング時間 (ns) | | | | | | エミッタ・コレクタ間ダイオード | | | | | | 熱抵抗 | | 等価回路 | 外形図 | 記事 | 型名 | | |
|--------------------------|------------------------|------------------------|----------------|---------------------|----------------|----------------------|-----------------------|-----------------------|-----------------------|-------------------------|----------------|-------|-----------------------------|--------|-------|------|--------|---------|---------------|--------------|
| | V _{CE} (V) | V _{CE} (V) | スイッチング時間 (ns) | | | | R _G (Ω) | I _C (A) | V _F (V) | t _{rr} (ns) | | | R _{th(j-c)} (°C/W) | | | | | | | |
| | | | t _r | t _{e(10N)} | t _f | t _{e(10PF)} | | | | I _F | I _F | di/dt | トランジスタ部 | ダイオード部 | | | | | | |
| 標準 | 10 | 0 | 最大 | 最大 | 最大 | 最大 | | | 最大 | 最大 | 最大 | 最大 | 最大 | 最大 | 最大 | | | | | |
| 10000 | 10 | 0 | 300 | 150 | 350 | 400 | 13 | 50 | 300 | 2.5 | 50 | 200 | 50 | -100 | 0.5 | 1.0 | MGI-2A | M-4A2D | FD付, 直列接続 | CM50DY-12E |
| 15000 | 10 | 0 | 300 | 150 | 350 | 400 | 8.3 | 75 | 300 | 2.5 | 75 | 200 | 75 | -150 | 0.4 | 0.9 | MGI-2A | M-4A2D | FD付, 直列接続 | CM75DY-12E |
| 20000 | 10 | 0 | 300 | 150 | 350 | 400 | 6.3 | 100 | 300 | 2.5 | 100 | 200 | 100 | -200 | 0.31 | 0.7 | MGI-2A | M-4A2D | FD付, 直列接続 | CM100DY-12E |
| 30000 | 10 | 0 | 700 | 400 | 350 | 600 | 4.2 | 150 | 300 | 2.5 | 150 | 200 | 150 | -300 | 0.21 | 0.47 | MGI-2A | M-4C2A | FD付, 直列接続 | CM150DY-12E |
| 40000 | 10 | 0 | 700 | 400 | 350 | 700 | 3.1 | 200 | 300 | 2.5 | 200 | 200 | 200 | -400 | 0.16 | 0.35 | MGI-2A | M-4C2A | FD付, 直列接続 | CM200DY-12E |
| 60000 | 10 | 0 | 700 | 400 | 350 | 800 | 2.1 | 300 | 300 | 2.5 | 300 | 200 | 300 | -600 | 0.11 | 0.24 | MGI-2A | M-9D2A | FD付, 直列接続 | CM300DY-12E |
| 80000 | 10 | 0 | 700 | 400 | 350 | 800 | 1.6 | 400 | 300 | 2.5 | 400 | 200 | 400 | -800 | 0.085 | 0.18 | MGI-2A | M-10A2C | FD付, 直列接続 | CM400DY-12E |
| 10000 | 10 | 0 | 300 | 150 | 350 | 400 | 13 | 50 | 300 | 2.5 | 50 | 200 | 50 | -100 | 0.5 | 1.0 | MGI-1B | M-4A2E | FD付 | CM50E3Y-12E |
| 15000 | 10 | 0 | 300 | 150 | 350 | 400 | 8.3 | 75 | 300 | 2.5 | 75 | 200 | 75 | -150 | 0.4 | 0.9 | MGI-1B | M-4A2E | FD付 | CM75E3Y-12E |
| 20000 | 10 | 0 | 300 | 150 | 350 | 400 | 6.3 | 100 | 300 | 2.5 | 100 | 200 | 100 | -200 | 0.31 | 0.7 | MGI-1B | M-4A2E | FD付 | CM100E3Y-12E |
| 30000 | 10 | 0 | 700 | 400 | 350 | 600 | 4.2 | 150 | 300 | 2.5 | 150 | 200 | 150 | -300 | 0.21 | 0.47 | MGI-1B | M-4C2B | FD付 | CM150E3Y-12E |
| 40000 | 10 | 0 | 700 | 400 | 350 | 700 | 3.1 | 200 | 300 | 2.5 | 200 | 200 | 200 | -400 | 0.16 | 0.35 | MGI-1B | M-4C2B | FD付 | CM200E3Y-12E |
| 60000 | 10 | 0 | 700 | 400 | 350 | 800 | 2.1 | 300 | 300 | 2.5 | 300 | 200 | 300 | -600 | 0.11 | 0.24 | MGI-1B | M-9D2B | FD付 | CM300E3Y-12E |
| 80000 | 10 | 0 | 700 | 400 | 350 | 800 | 1.6 | 400 | 300 | 2.5 | 400 | 200 | 400 | -800 | 0.085 | 0.18 | MGI-1A | M-9B1C | FD付 | CM300HA-12E |
| | | | | | | | | | | | | | | | | | MGI-1A | M-9B1C | FD付 | CM400HA-12E |
| 10000 | 10 | 0 | 300 | 150 | 350 | 400 | 13 | 50 | 300 | 2.5 | 50 | 200 | 50 | -100 | 0.5 | 1.0 | MGI-6A | M-2B6C | FD付, 3相ブリッジ接続 | CM50TP-12E |
| 15000 | 10 | 0 | 300 | 150 | 350 | 400 | 8.3 | 75 | 300 | 2.5 | 75 | 200 | 75 | -150 | 0.4 | 0.9 | MGI-6B | M-12B6A | FD付, 3相ブリッジ接続 | CM75TP-12E |
| 20000 | 10 | 0 | 300 | 150 | 350 | 400 | 6.3 | 100 | 300 | 2.5 | 100 | 200 | 100 | -200 | 0.31 | 0.7 | MGI-6B | M-12B6A | FD付, 3相ブリッジ接続 | CM100TP-12E |

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FD-9

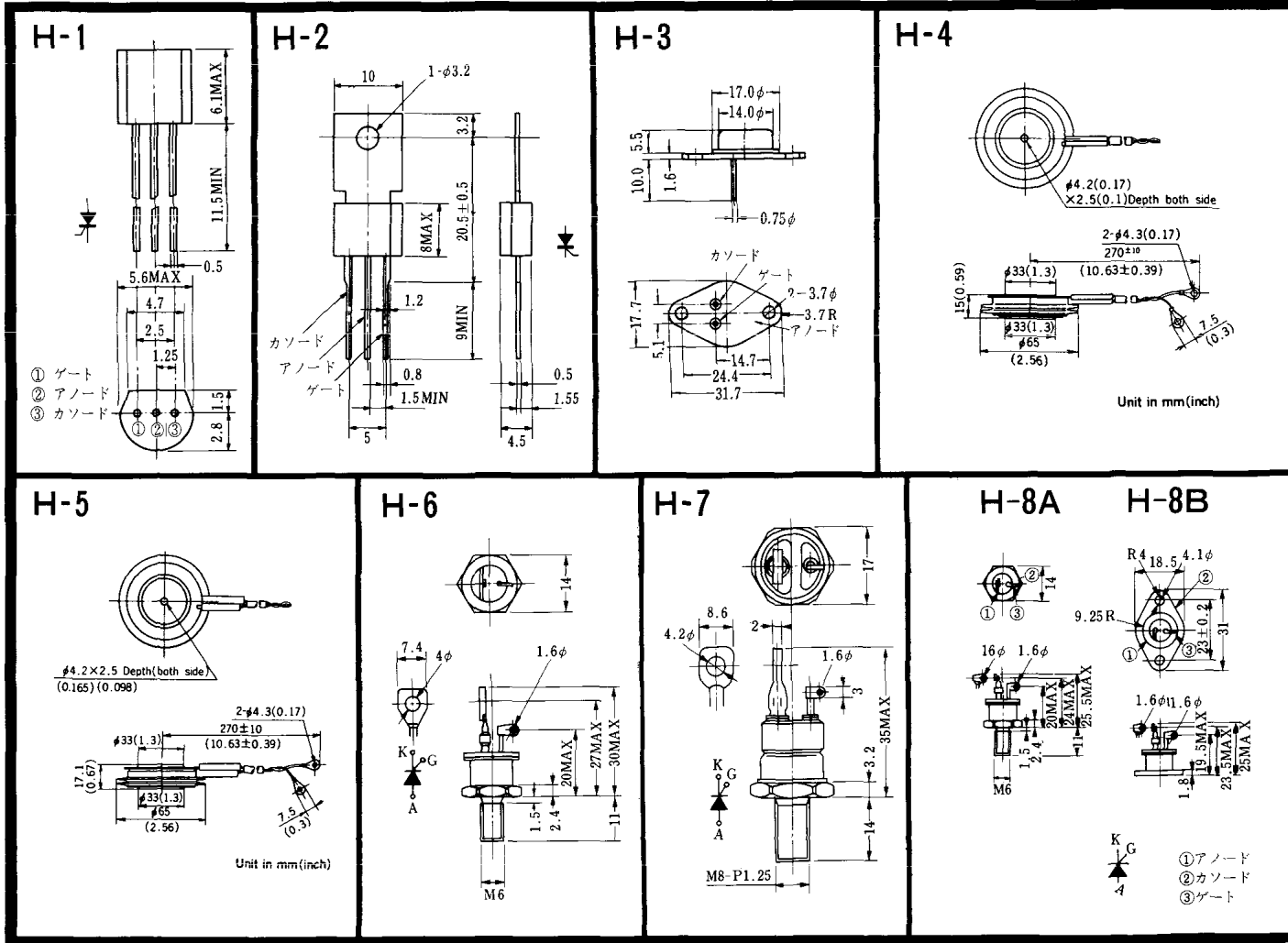


FD-10



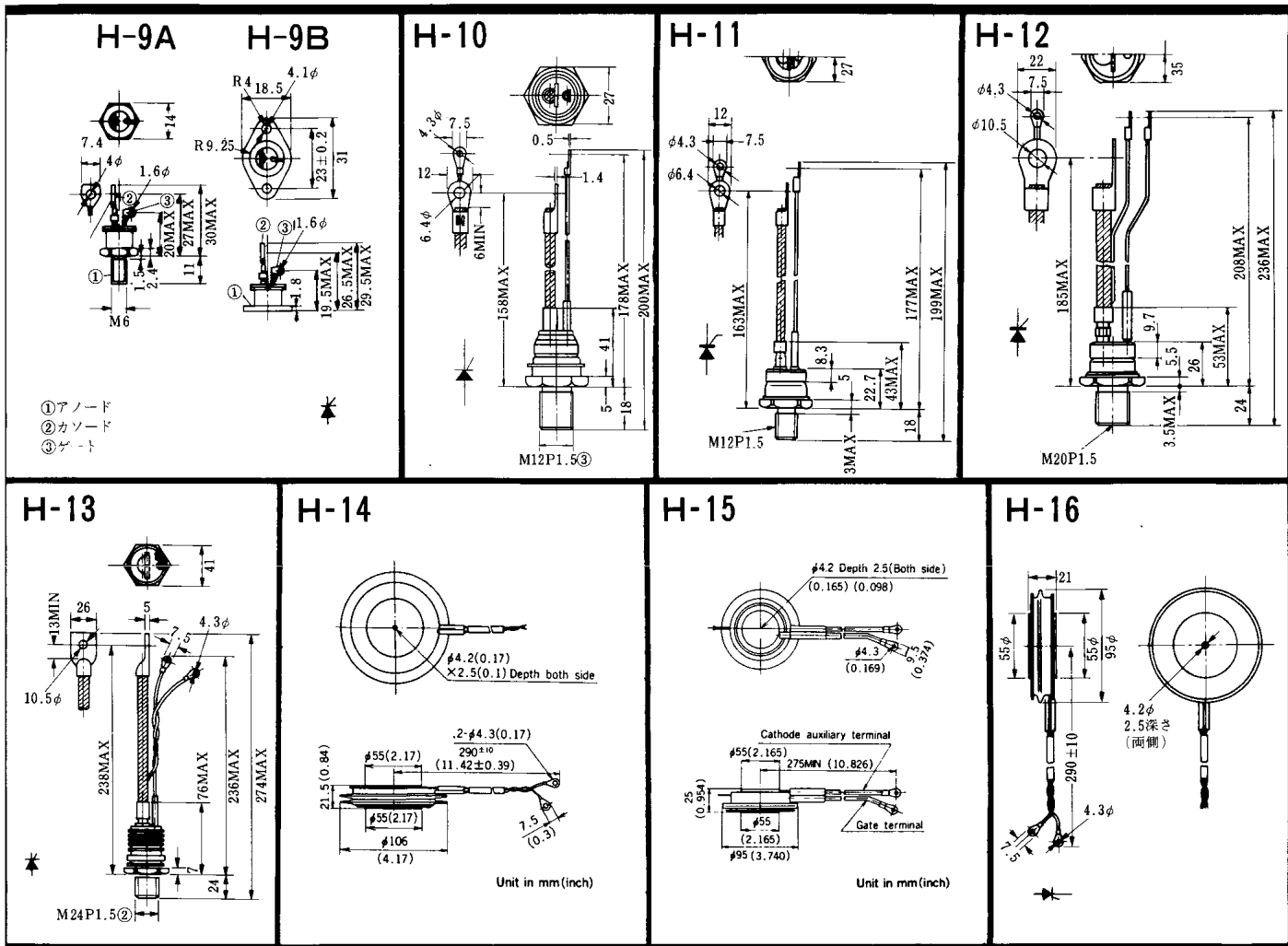
FD-11

FD-12



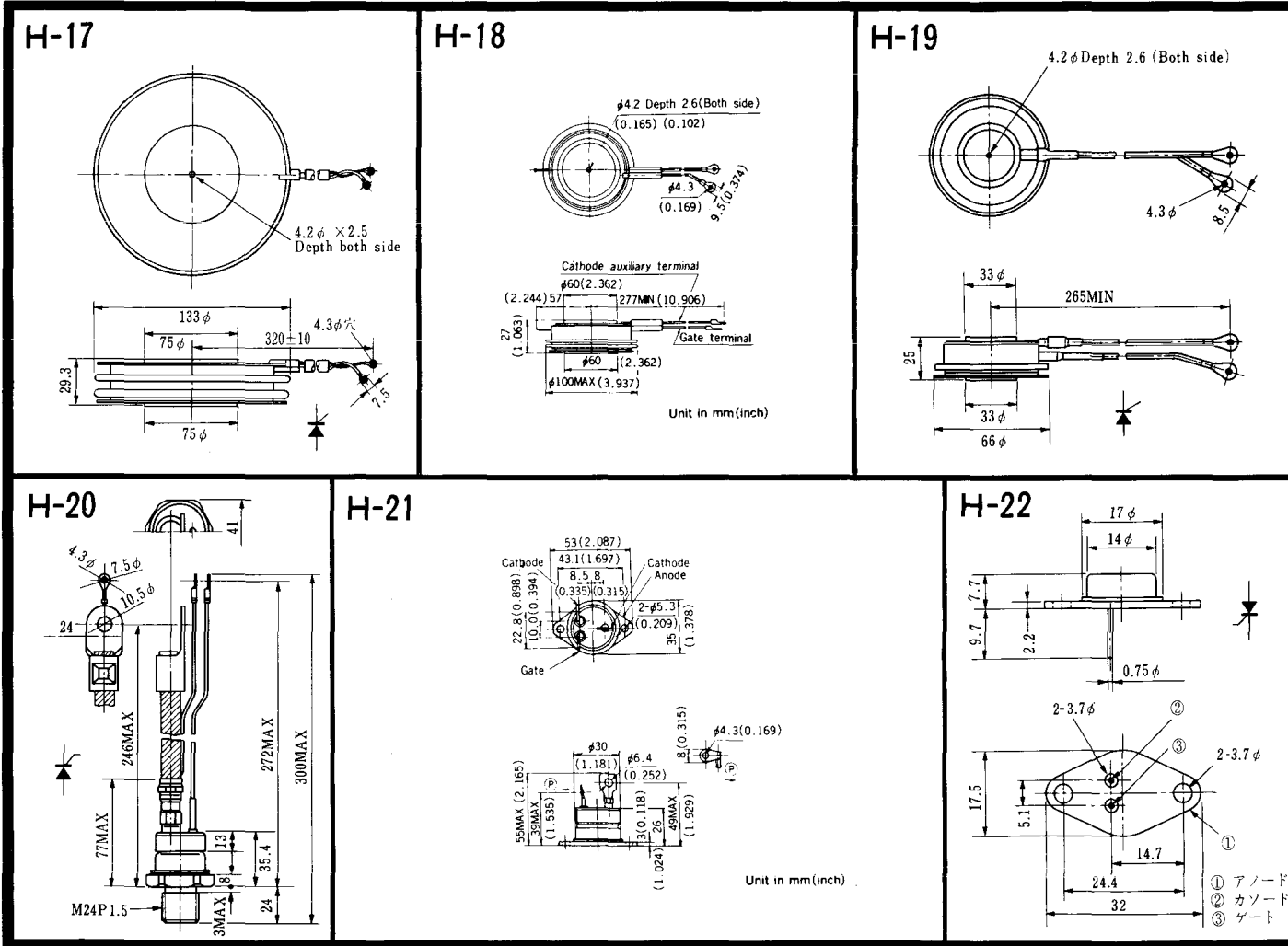
《寸法図単位：mm》

<http://store.iic.cc/>



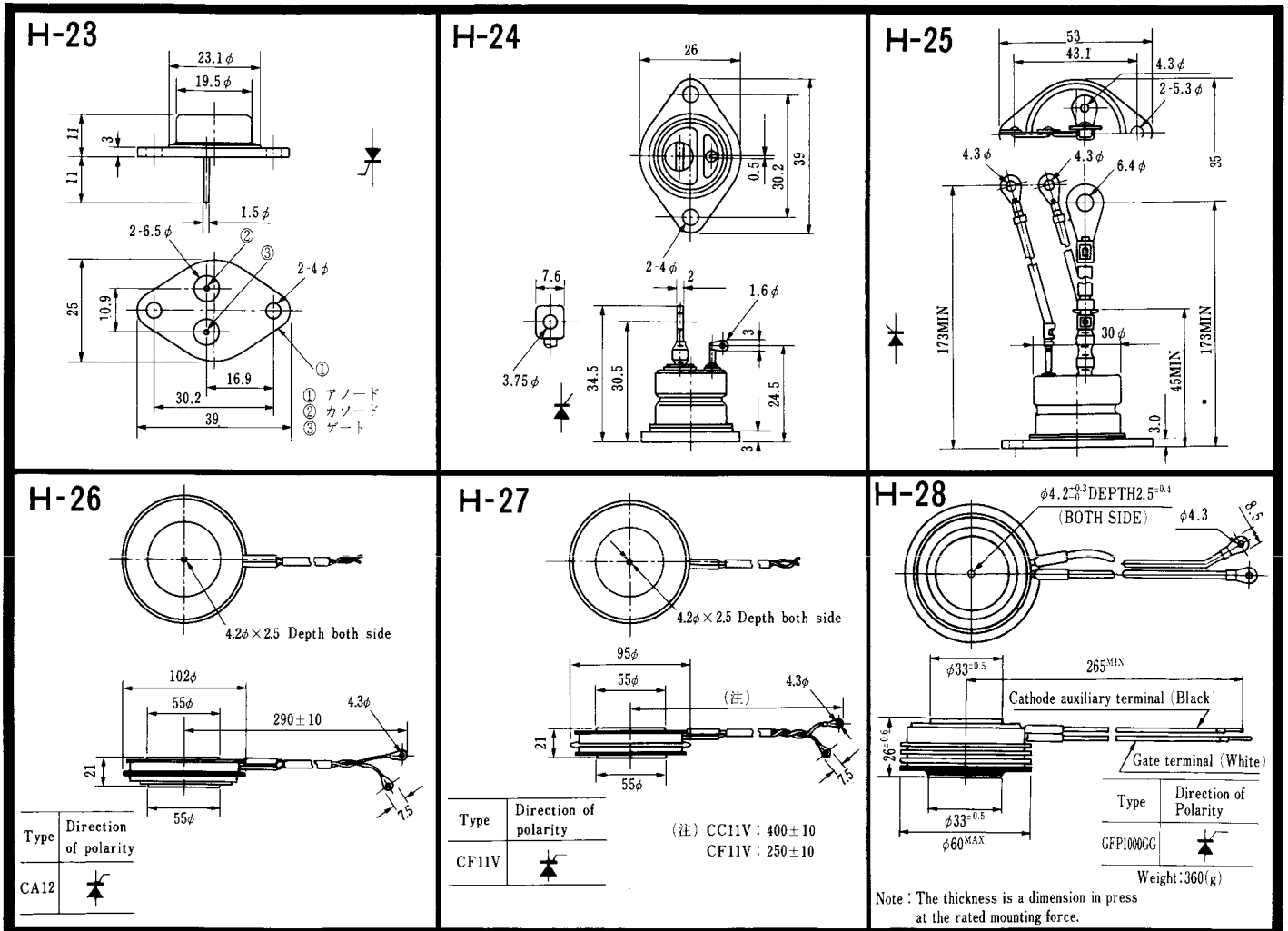
《寸法図単位：mm》

<http://store.iicc.cc/>



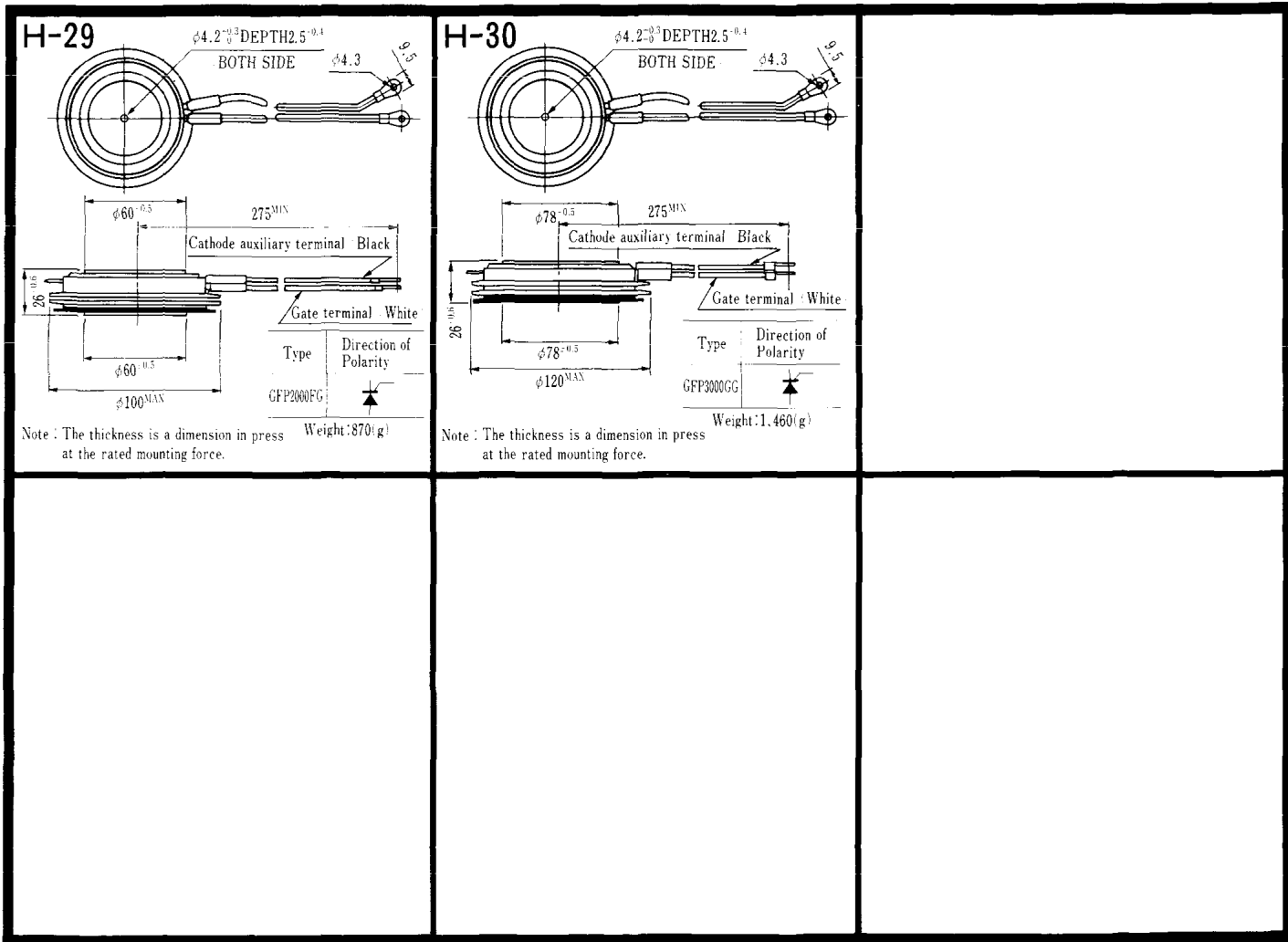
《寸法図単位：mm》

<http://store.iicc.cc/>



《寸法図単位：mm》

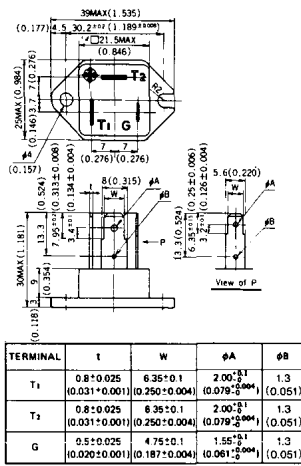
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<寸法図単位:mm>

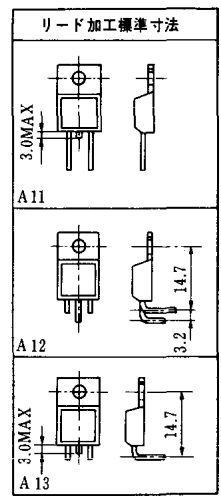
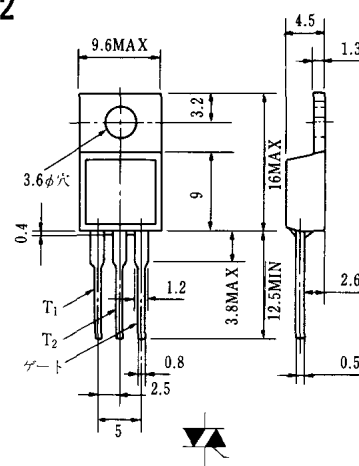
<http://store.iic.cc/>

HT-1

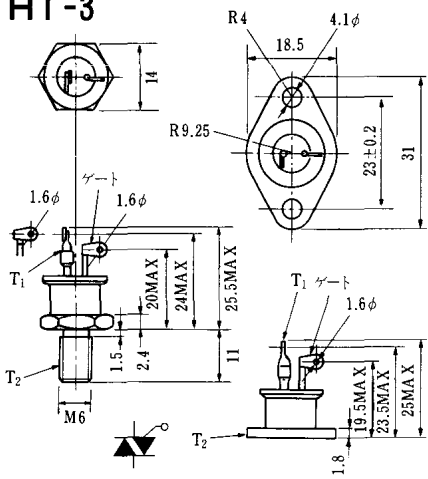


Unit in mm (inch)

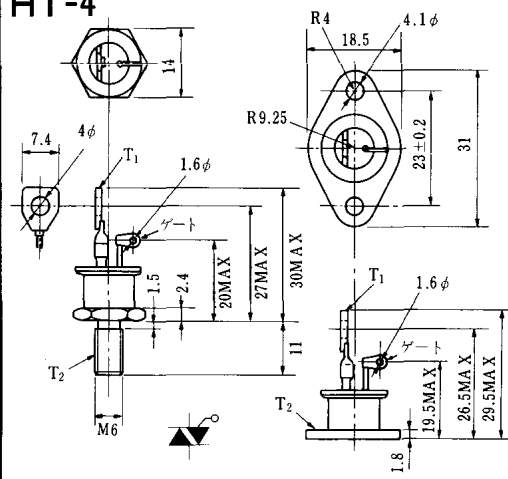
HT-2



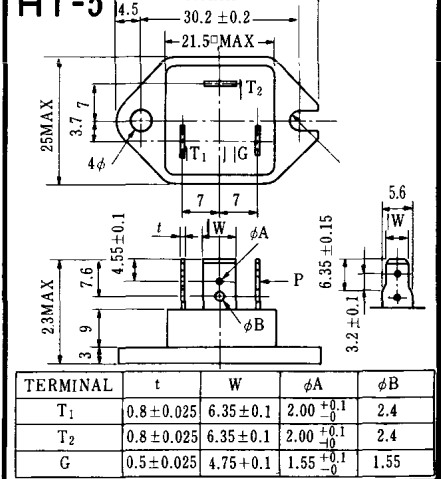
HT-3



HT-4

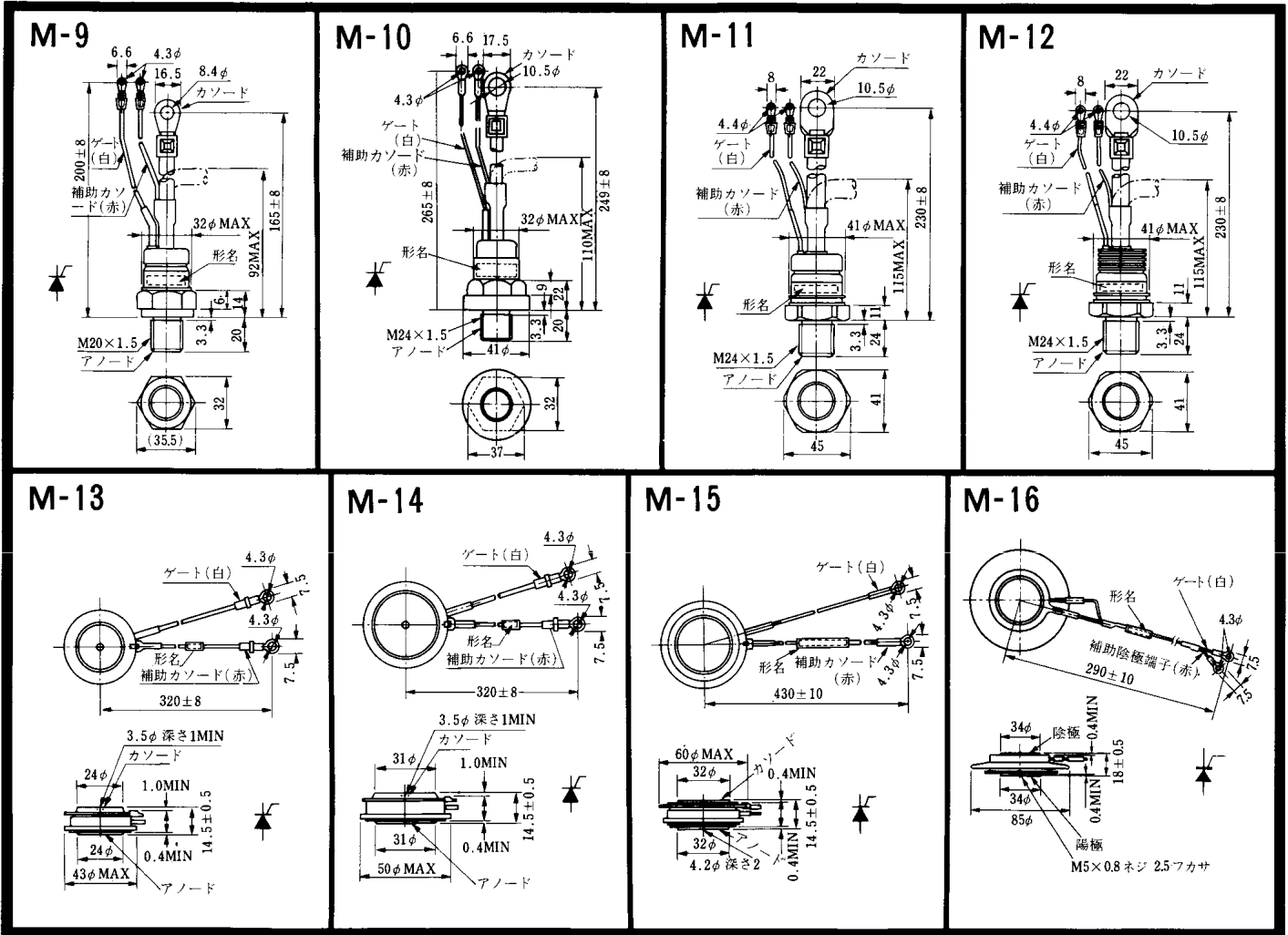


HT-5



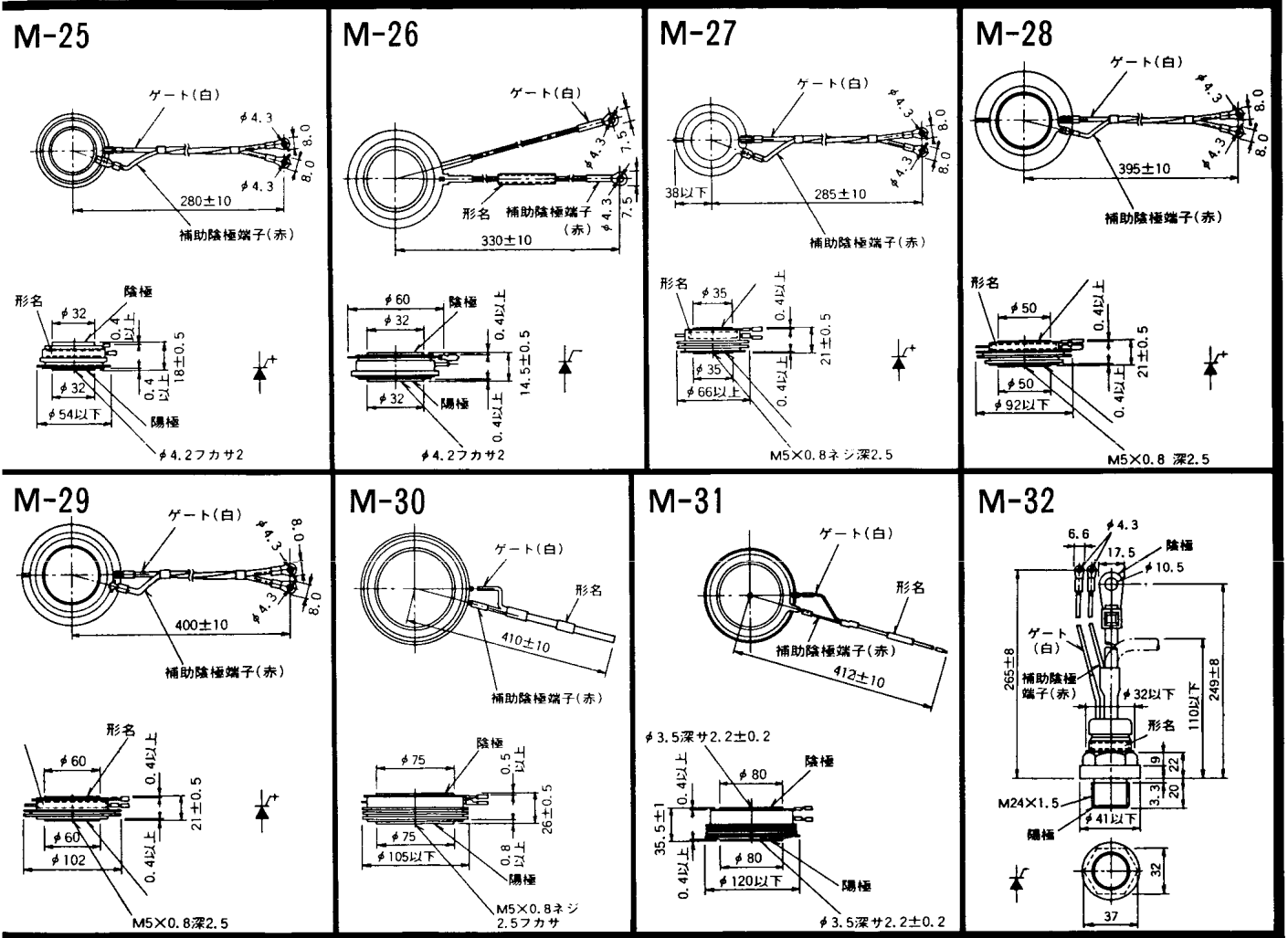
《寸法図単位：mm》

<http://store.iicc/>



〈寸法図単位：mm〉

<http://store.iicc.cc/>



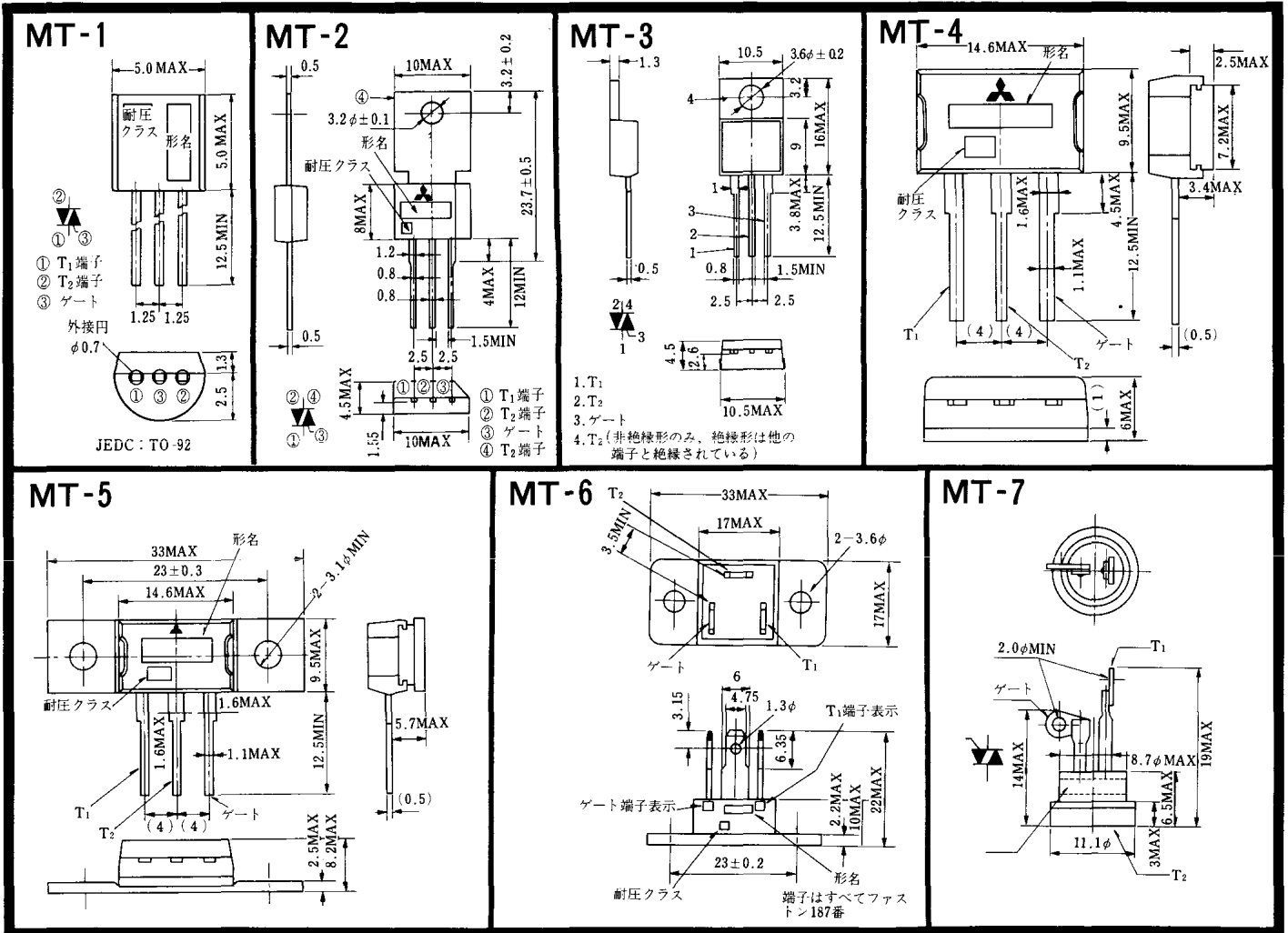
《寸法図単位：mm》

<http://store.iicc.cc/>

| | | | |
|--------------------|----------------------------------|--|--|
| <p>M-33</p> | <p>M-34</p> <p>TO-202</p> | | |
| | | | |

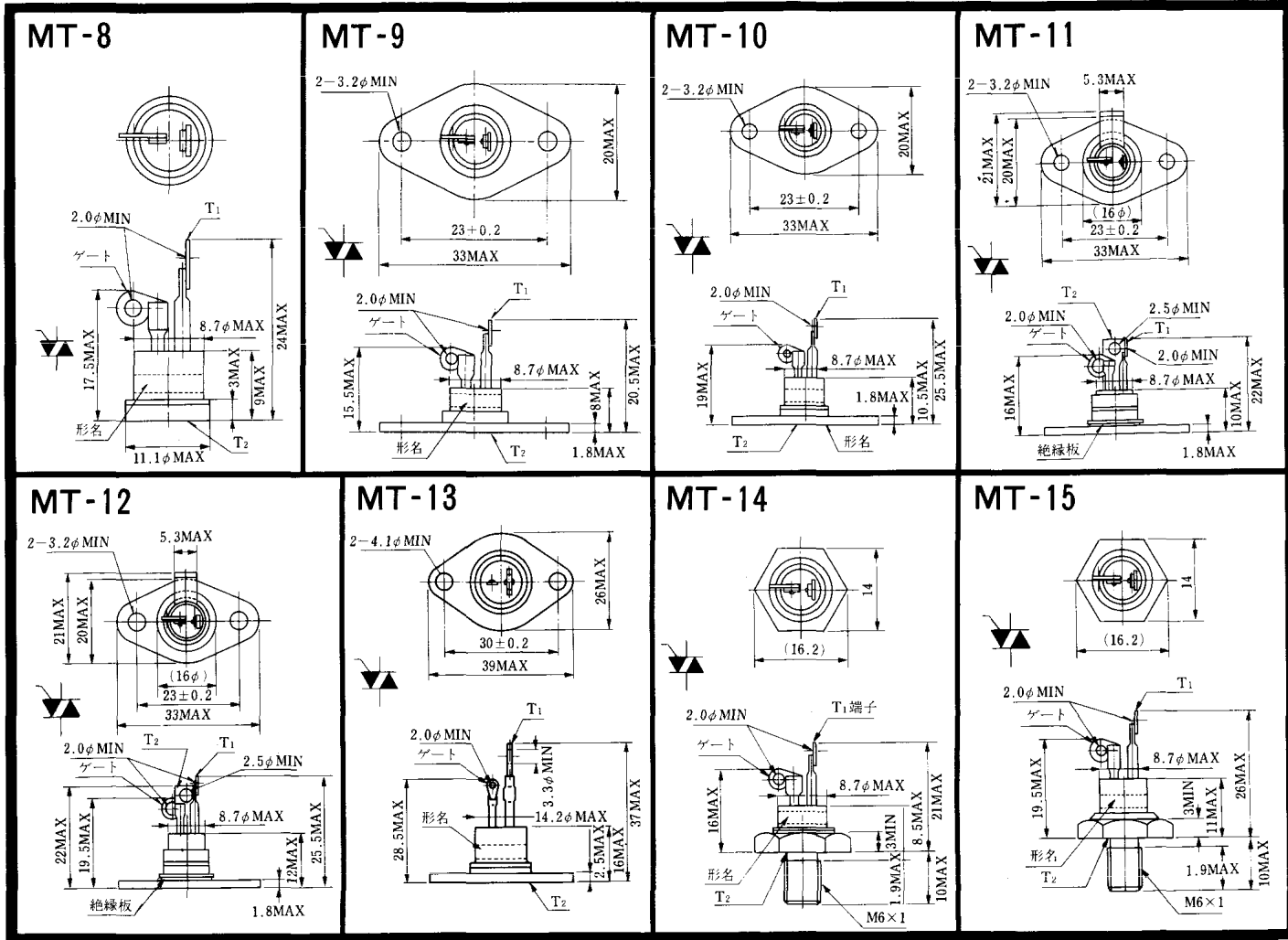
〈寸法図単位:mm〉

<http://store.iic.cc/>



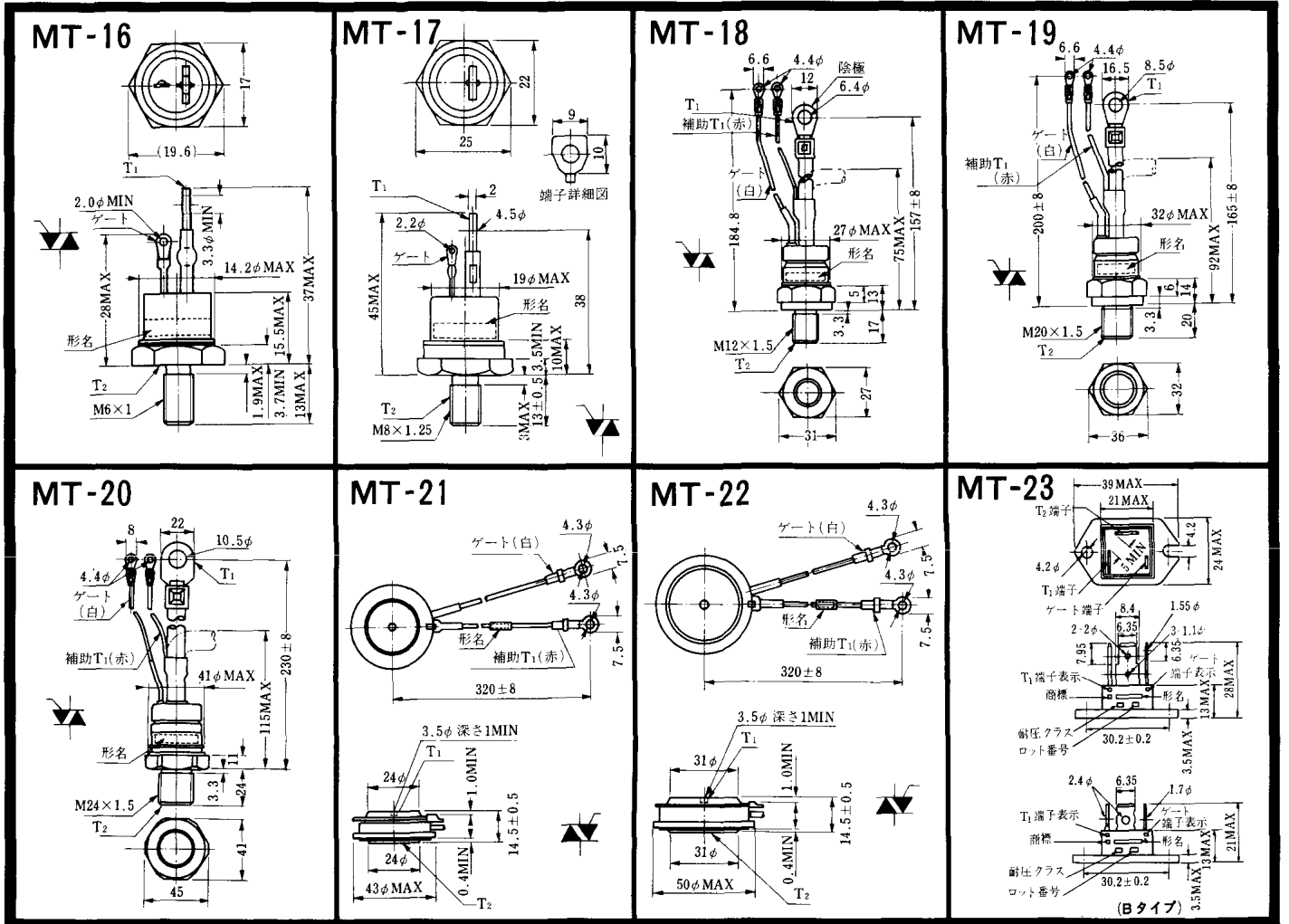
《寸法図単位：mm》

<http://store.iic.cc/>



《寸法図単位：mm》

<http://store.iic.cc/>



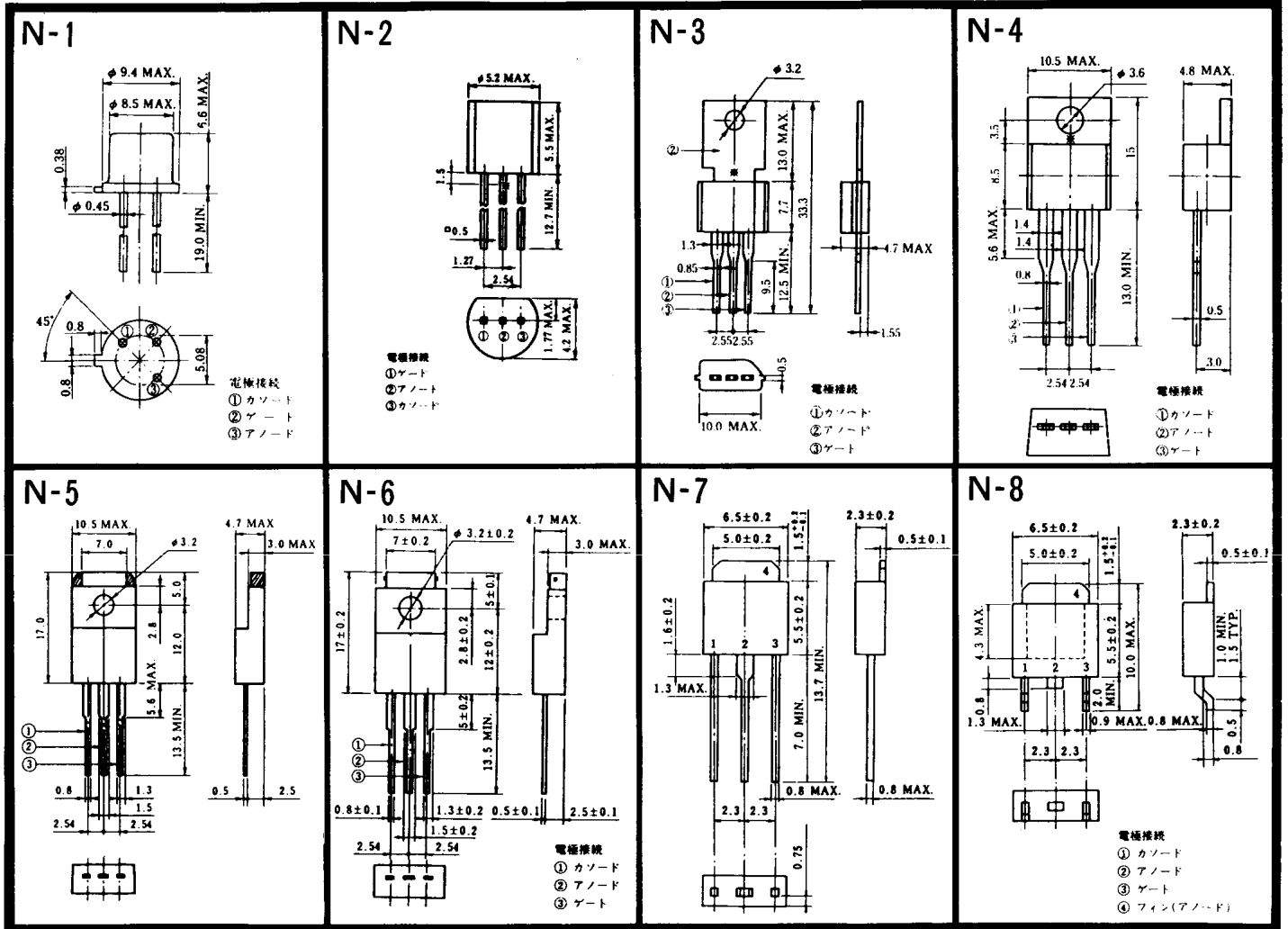
〈寸法図単位：mm〉

<http://store.iic.cc/>

| | | | |
|---|--|--|--|
| <p>MT-24</p> <p>Technical drawing of the MT-24 component. It includes a side view on the left and a top view on the right. Dimensions are provided in millimeters: side view shows 4.5, 1.5, 0.6, and 2.8; top view shows 15.6, 20.0, 20.0, 2, 1.0, 5.45, 5.45, and 4. A pinout diagram shows a triangle with pins 1, 2, and 3. A legend identifies the pins: ① T1端子, ② T2端子, ③ ゲート端子, ④ T2端子. The text 'TO - 3P' is located below the pinout diagram.</p> | | | |
| | | | |

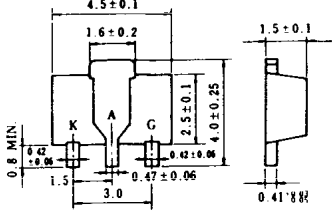
〈寸法図単位:mm〉

<http://store.iic.cc/>



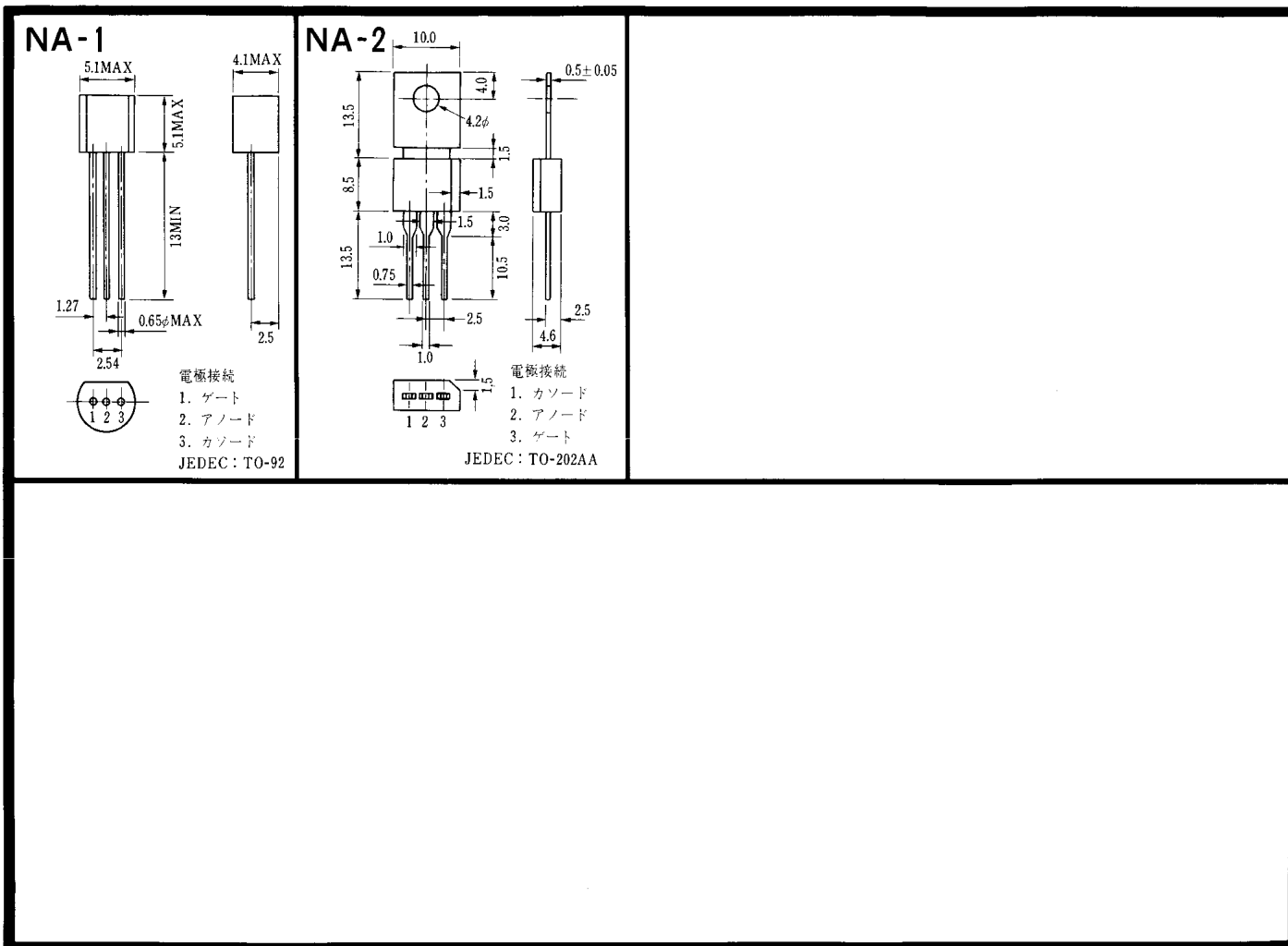
〈寸法図単位:mm〉

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| | | | |
|---|--|--|--|
| <p>N-9</p>  <p>0.8 MIN. 0.42 ±0.06 1.5 3.0 0.47 ± 0.06 0.42 ± 0.06 4.5 ± 0.1 1.6 ± 0.2 2.5 ± 0.1 4.0 ± 0.25 1.5 ± 0.1 0.41 ± 0.02</p> <p>電極標記 K:カソード A:アノード G:ゲート</p> | | | |
| | | | |

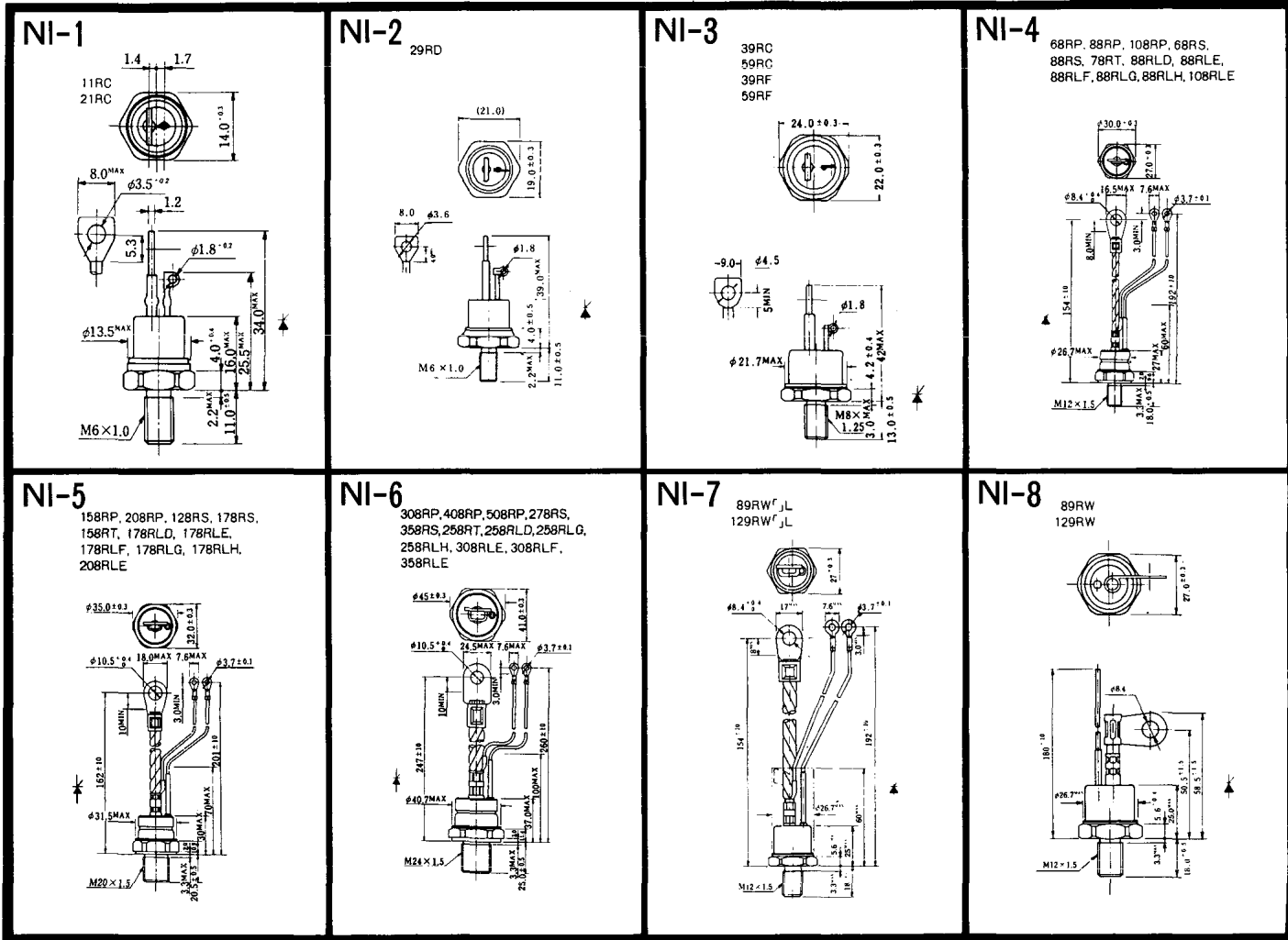
<寸法図単位:mm>

<http://store.iic.cc/>



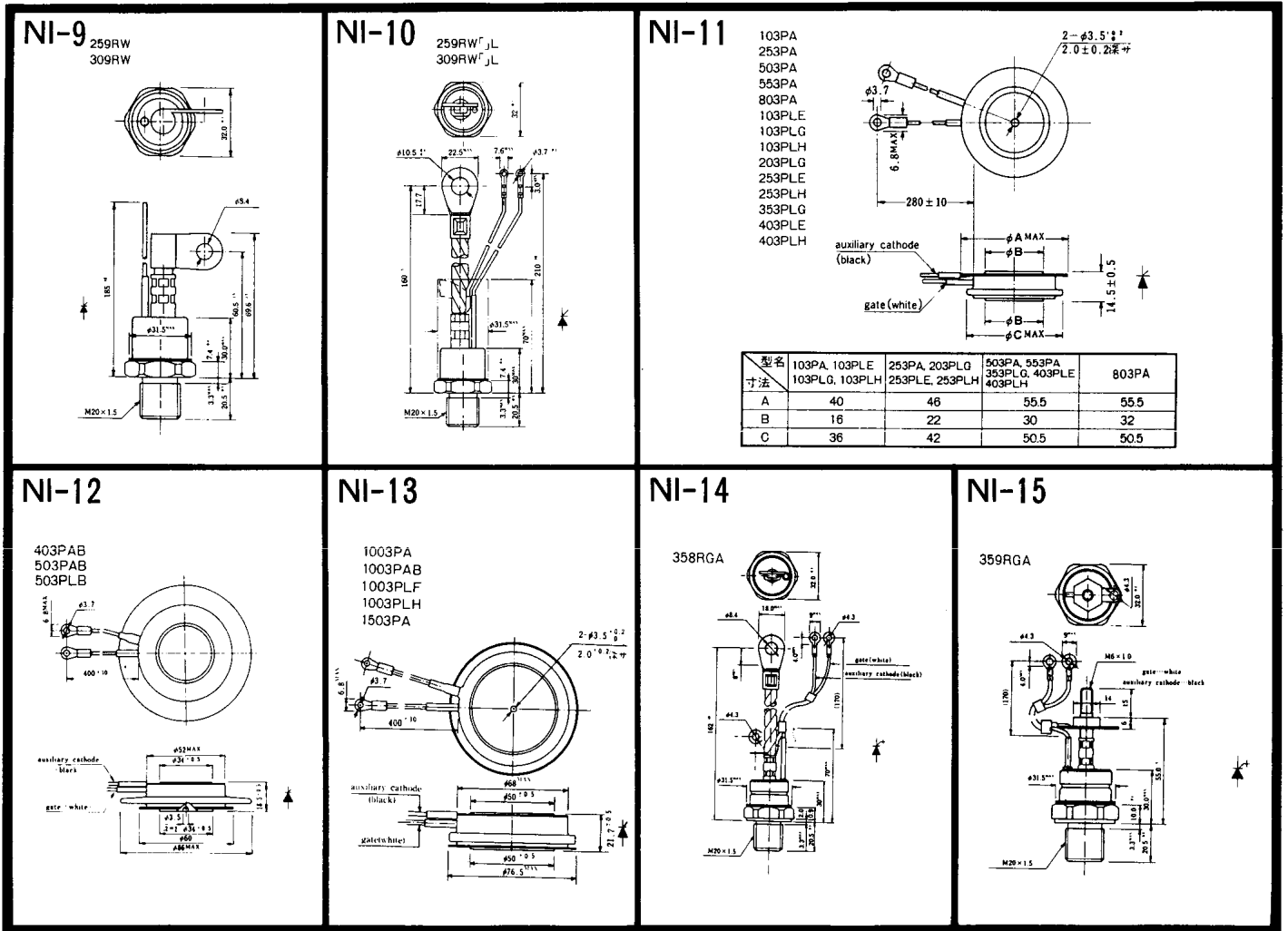
《寸法図単位：mm》

<http://store.iic.cc/>



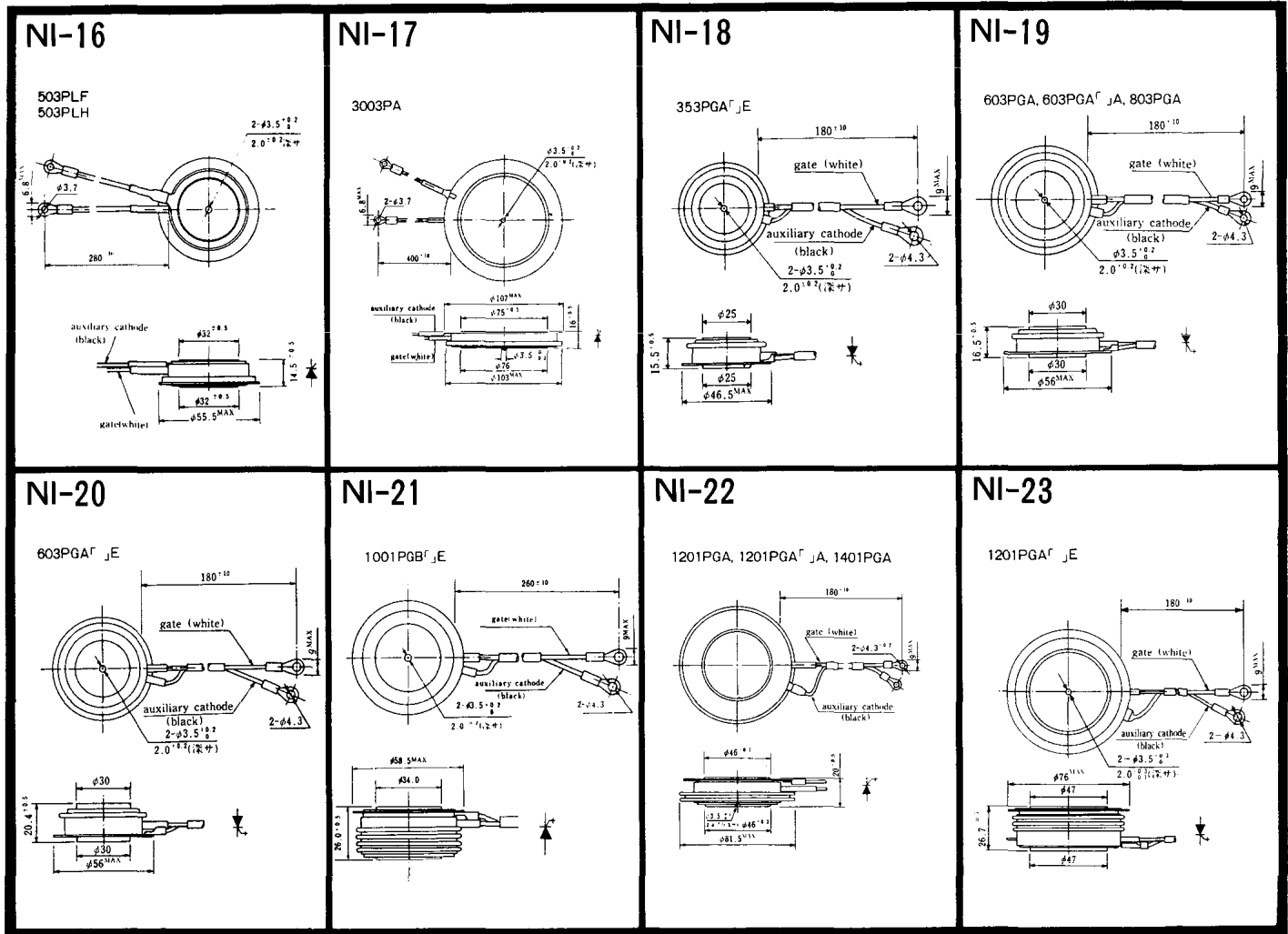
〈寸法図単位:mm〉

<http://store.iicc.cc/>



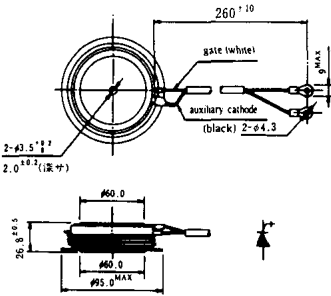
《寸法図単位:mm》

<http://store.iicc.cc/>



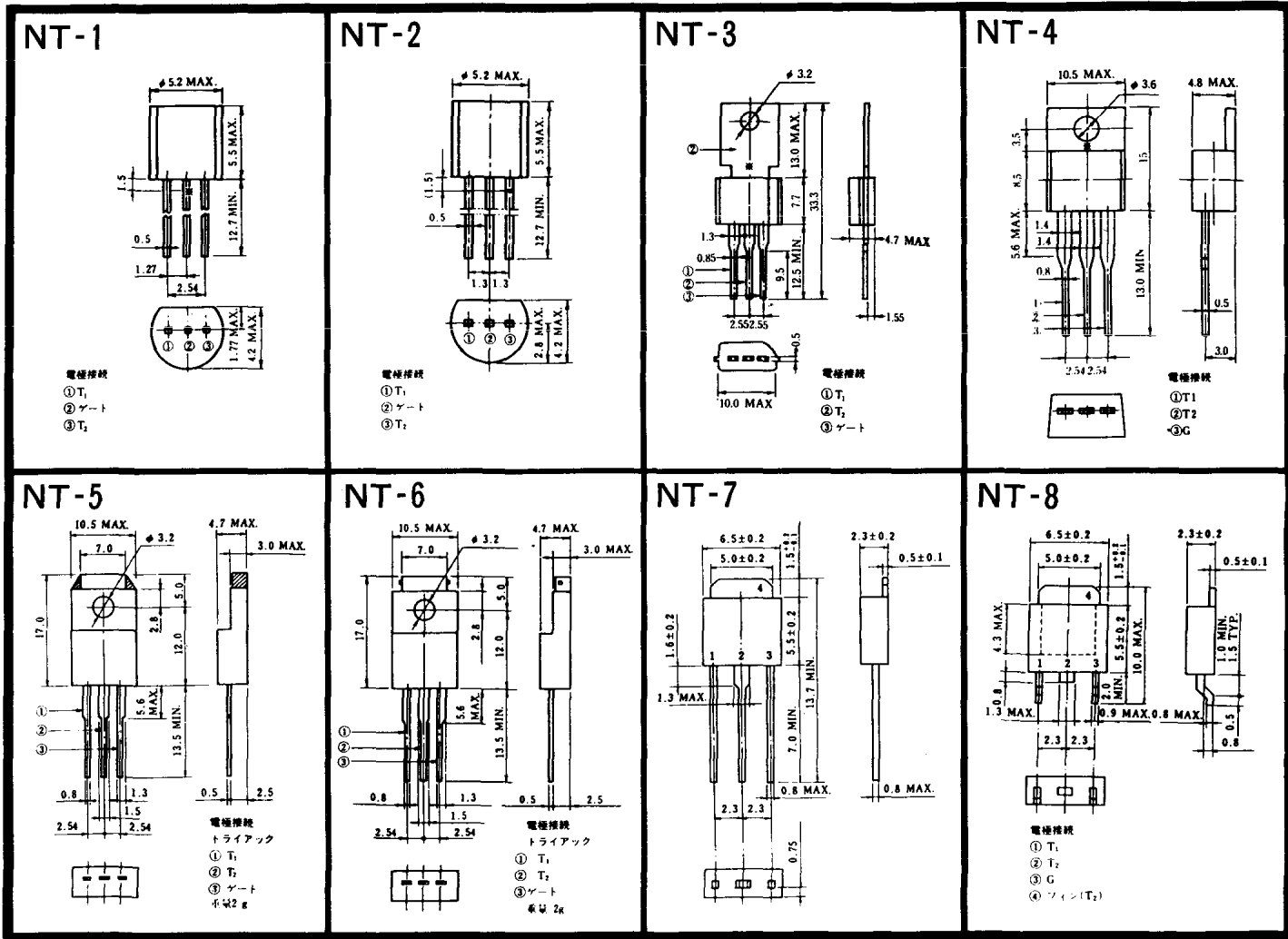
《寸法图单位:mm》

<http://store.iic.cc/>

| NI-24 | NI-25 | NI-26 | |
|--|-------|-------|--|
| <p>2001PGBF JE</p>  <p>260⁺¹⁰ gate width</p> <p>2-φ3.5^{+0.1} 2.0^{+0.2} (深中)</p> <p>auxiliary cathode (black) 2-φ4.3</p> <p>φ60.0</p> <p>φ95.0 MAX</p> | | | |

《寸法图单位:mm》

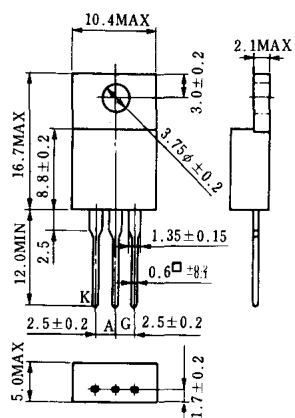
<http://store.iic.cc/>



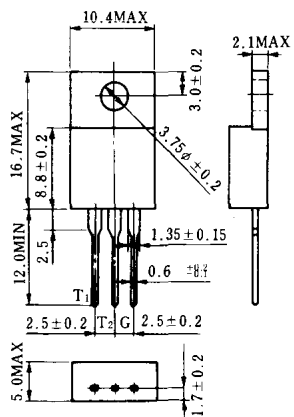
<http://store.iic.cc/>

〈寸法図単位:mm〉

S-1

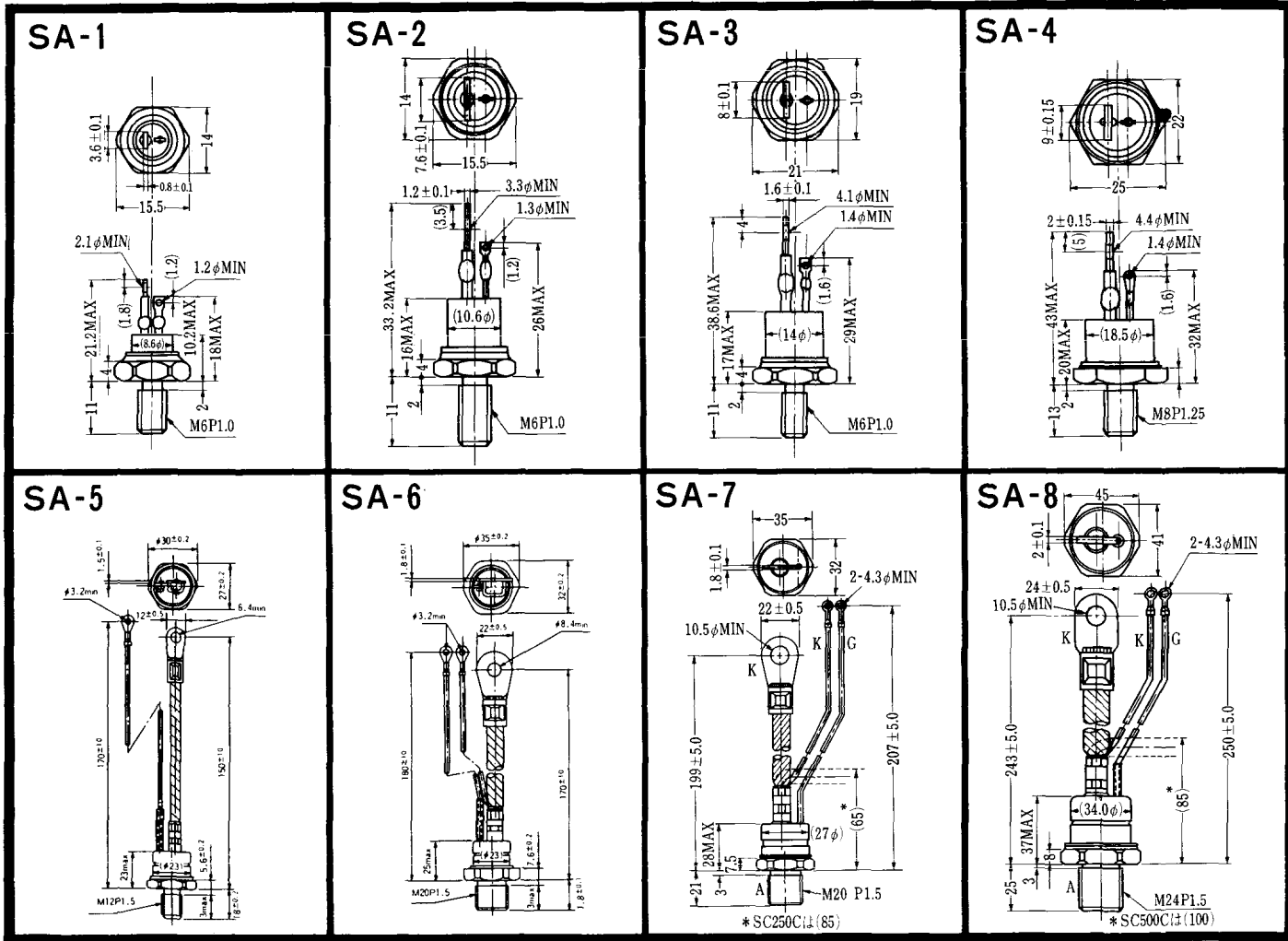


ST-1



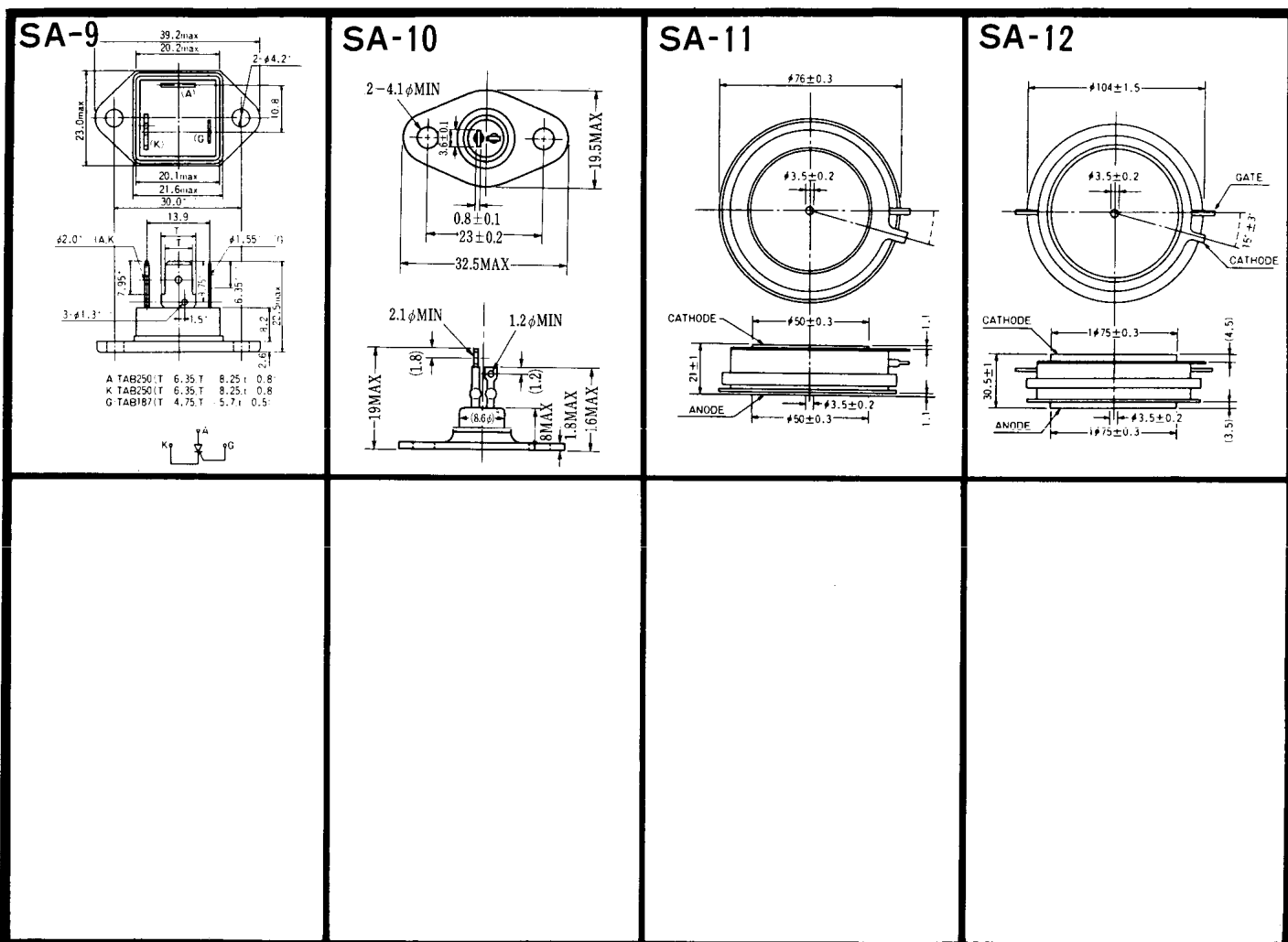
《寸法図単位：mm》

<http://store.iic.cc/>



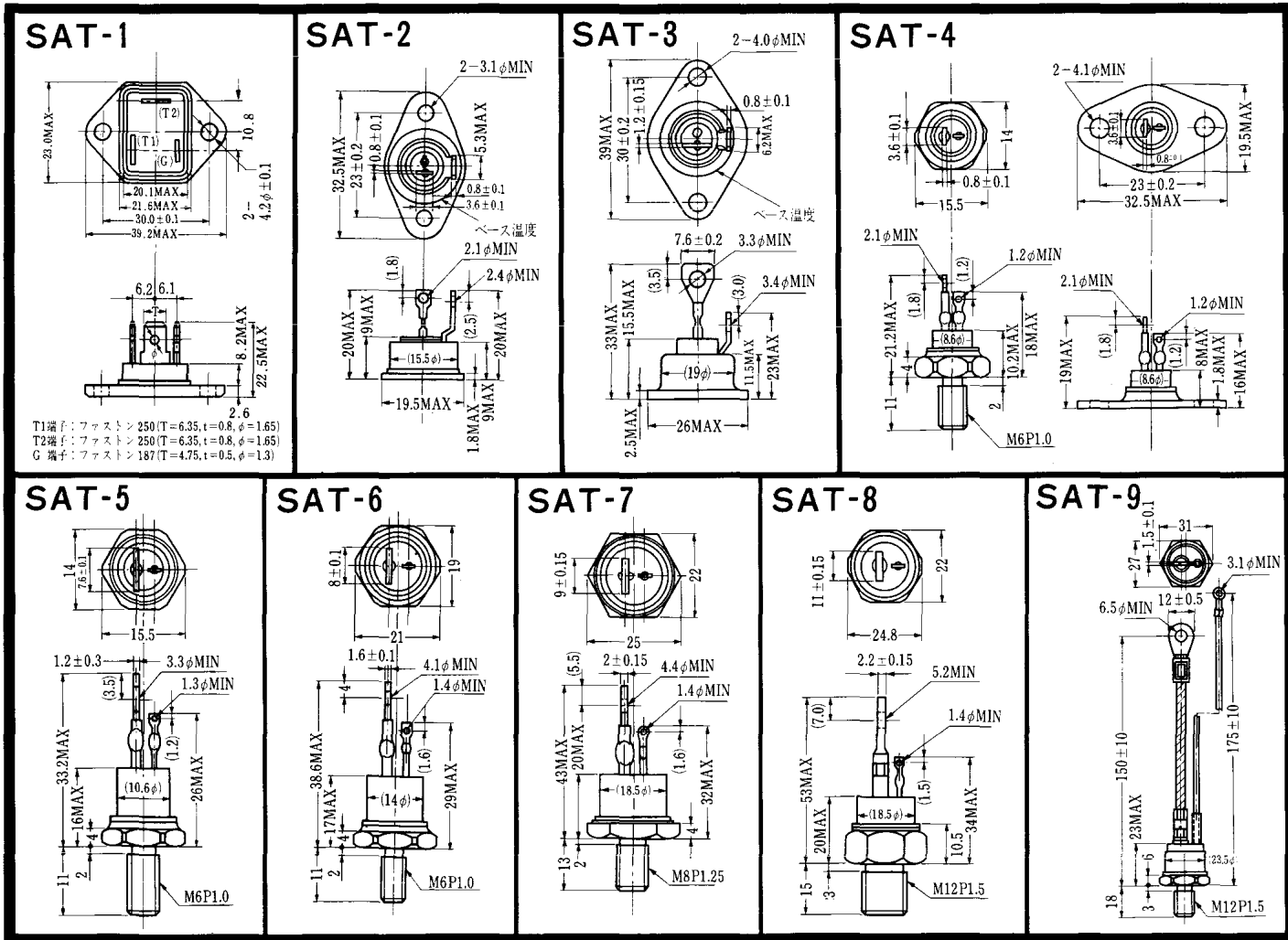
〈寸法図単位:mm〉

<http://store.iic.cc/>



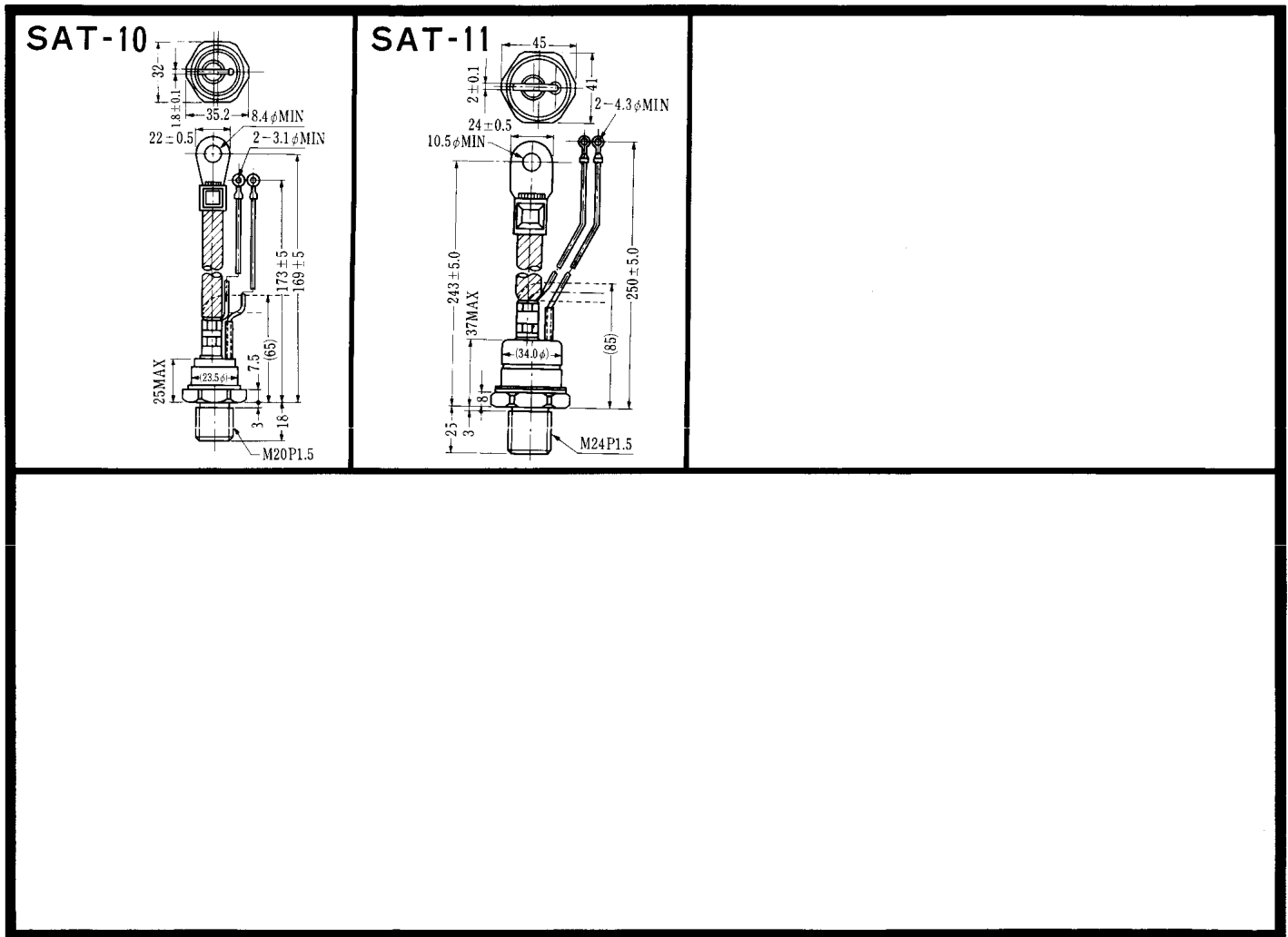
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《寸法図単位:mm》



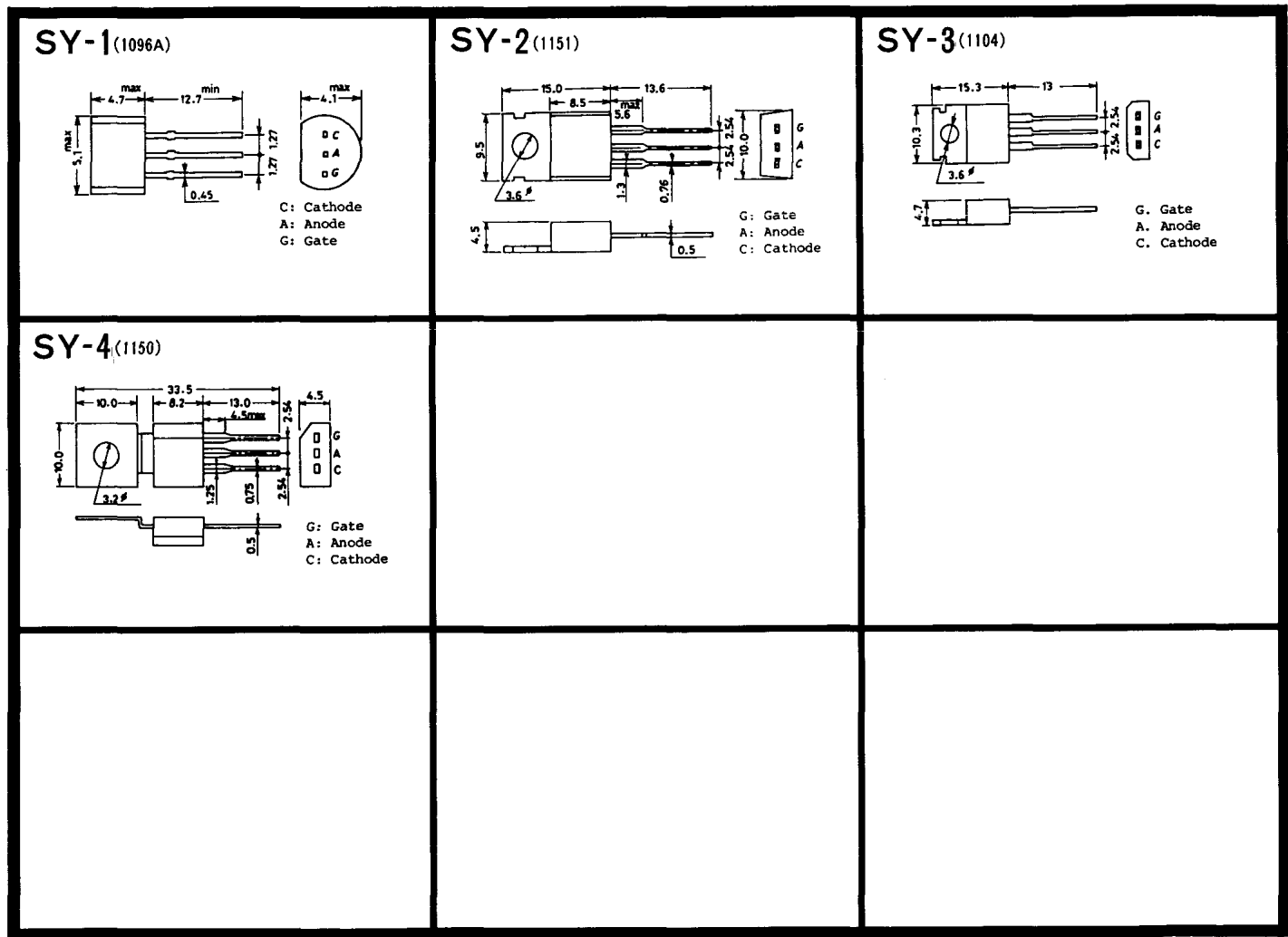
<http://store.iicc.cc/>

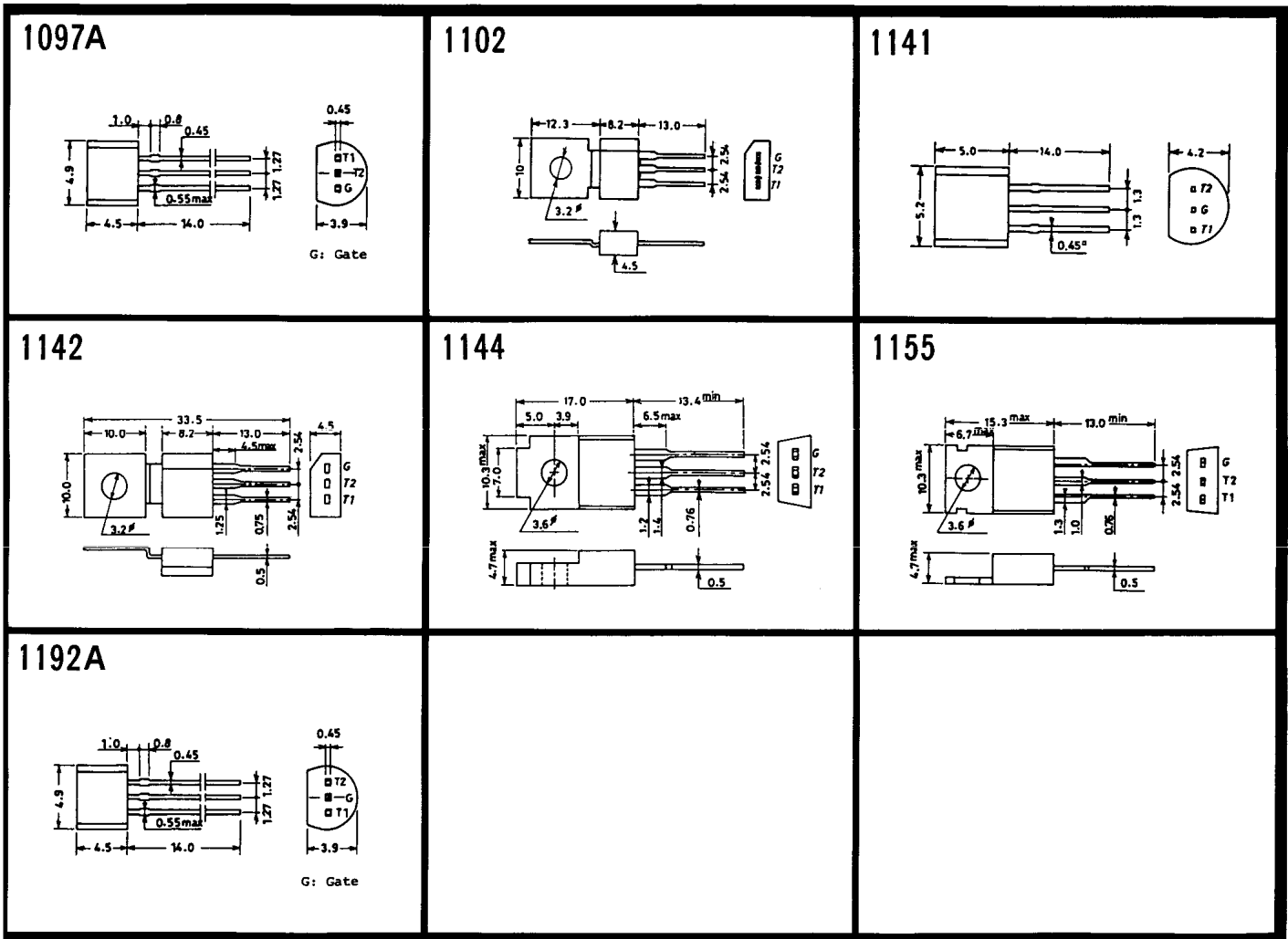
《寸法図単位: mm》

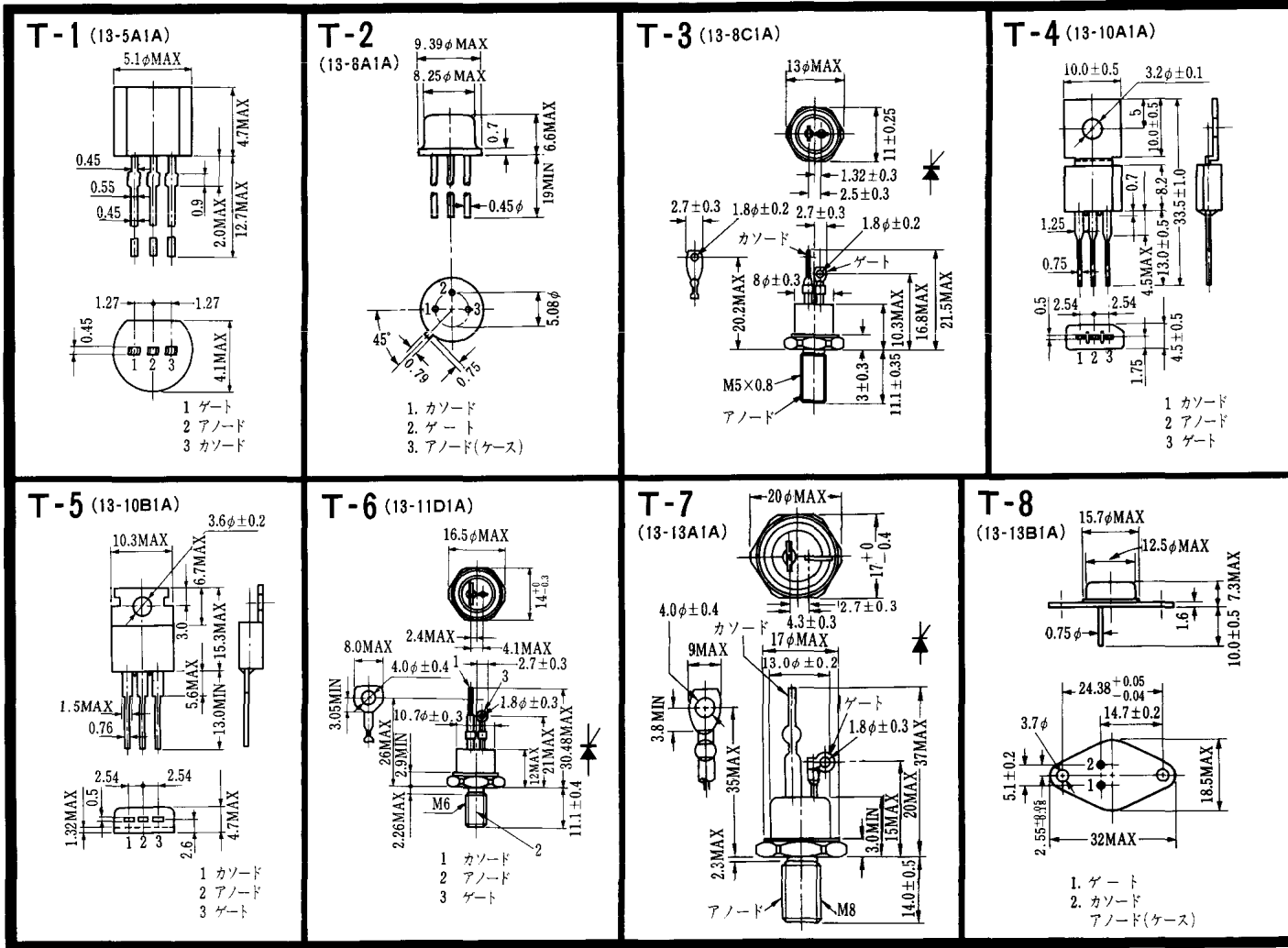


<http://store.iic.cc/>

《寸法図單位：mm》

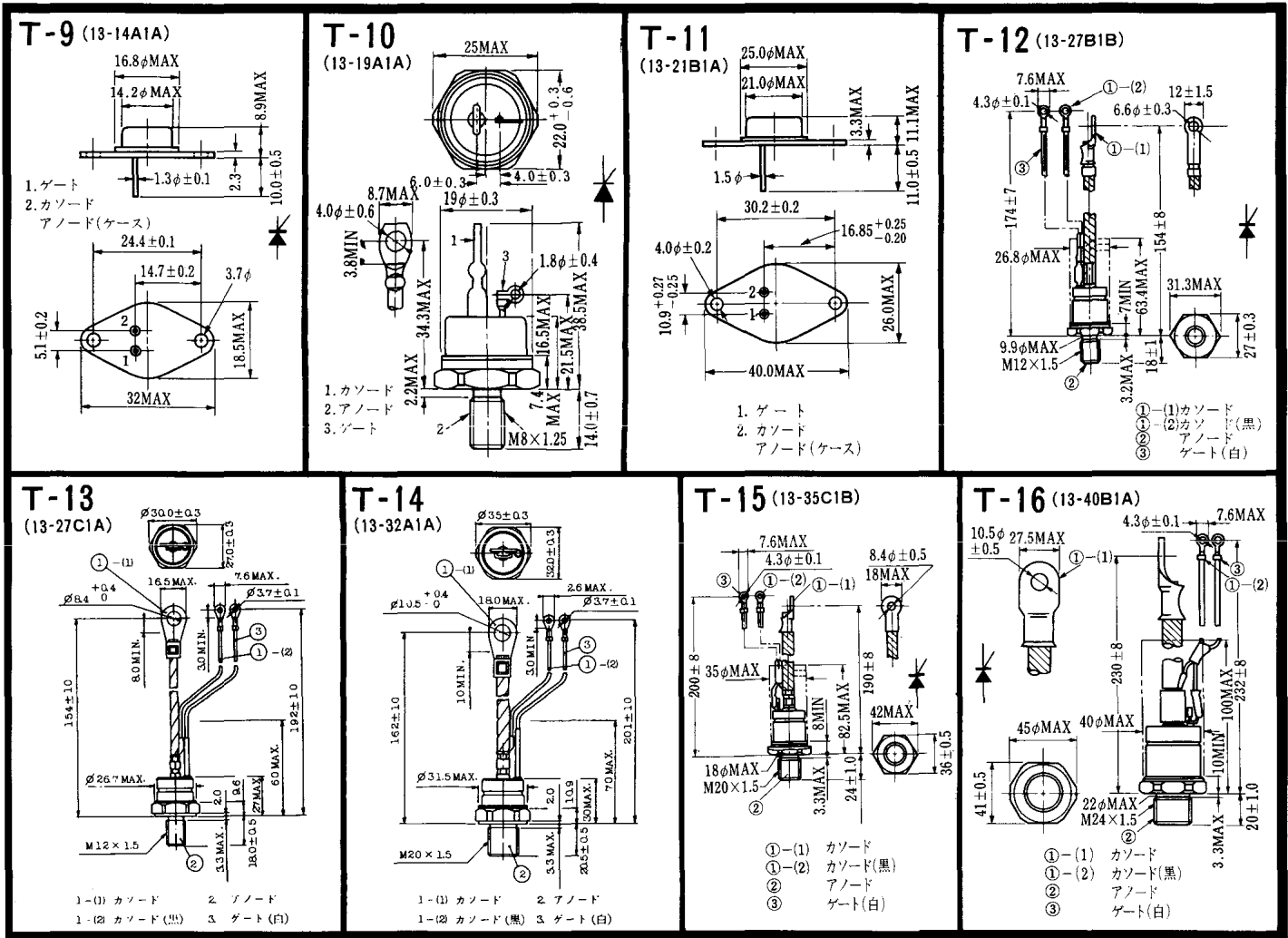






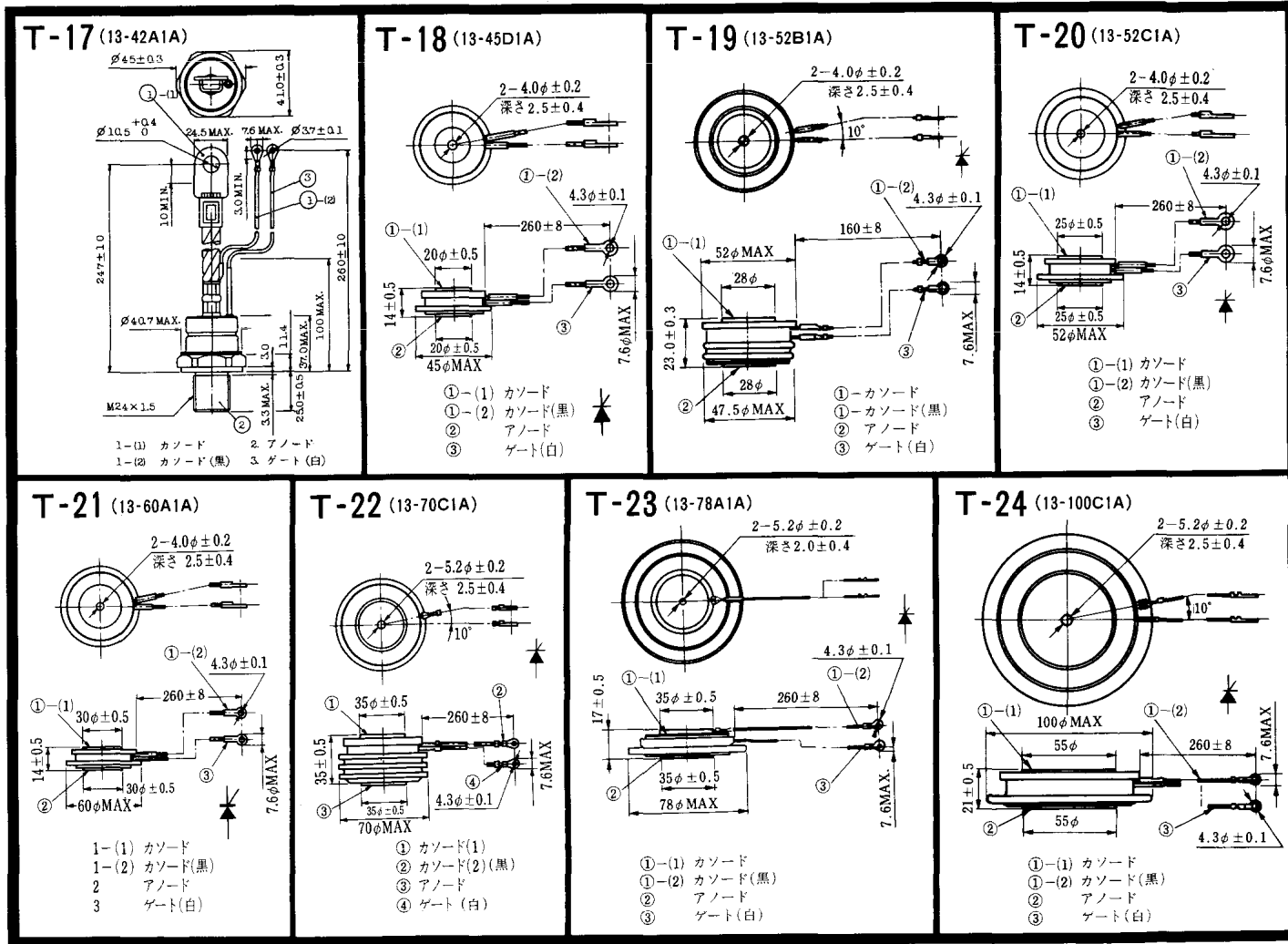
◀寸法図単位: mm

<http://store.iic.cc/>



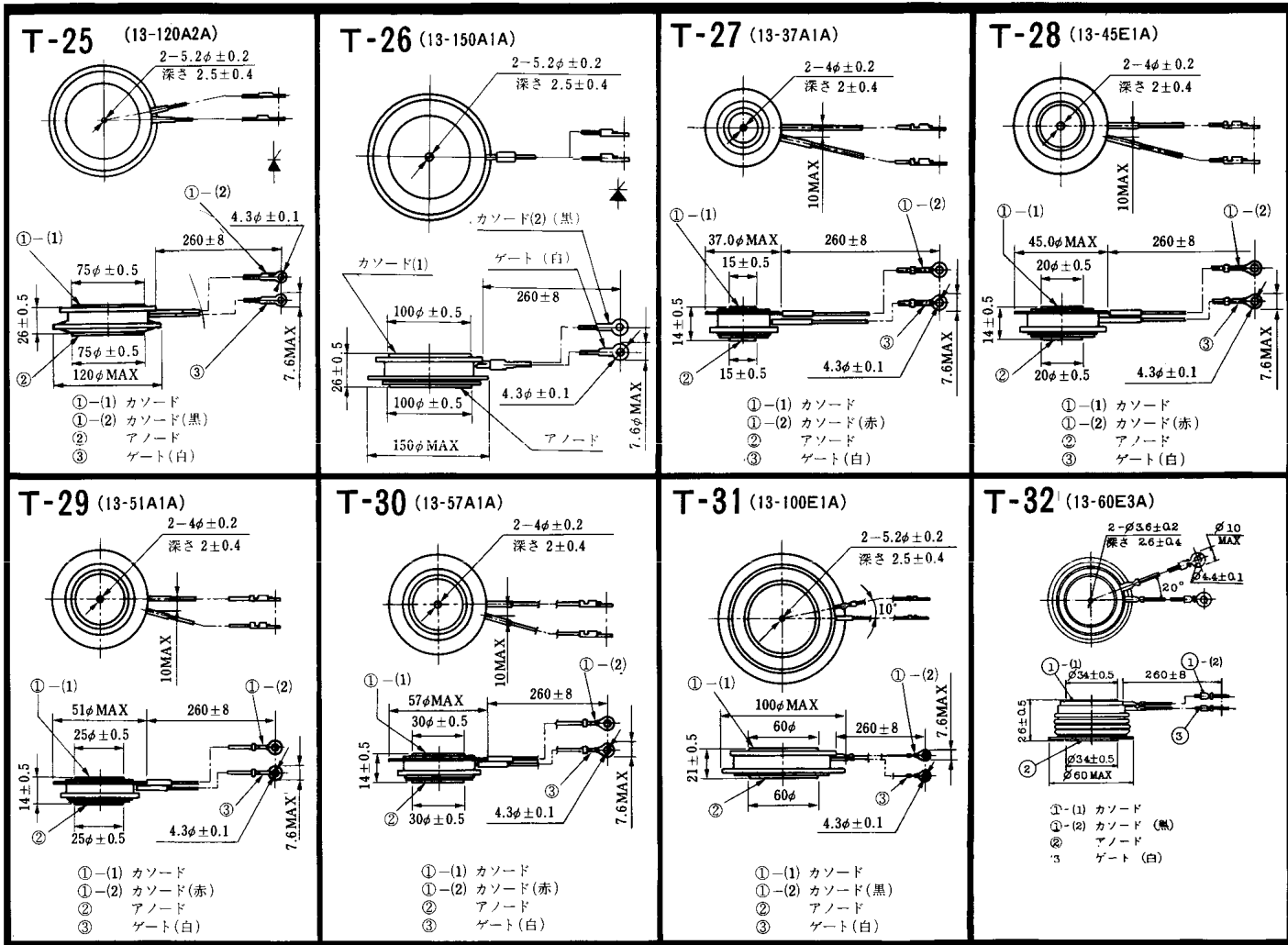
《寸法図単位：mm》

<http://store.iicc.cc/>



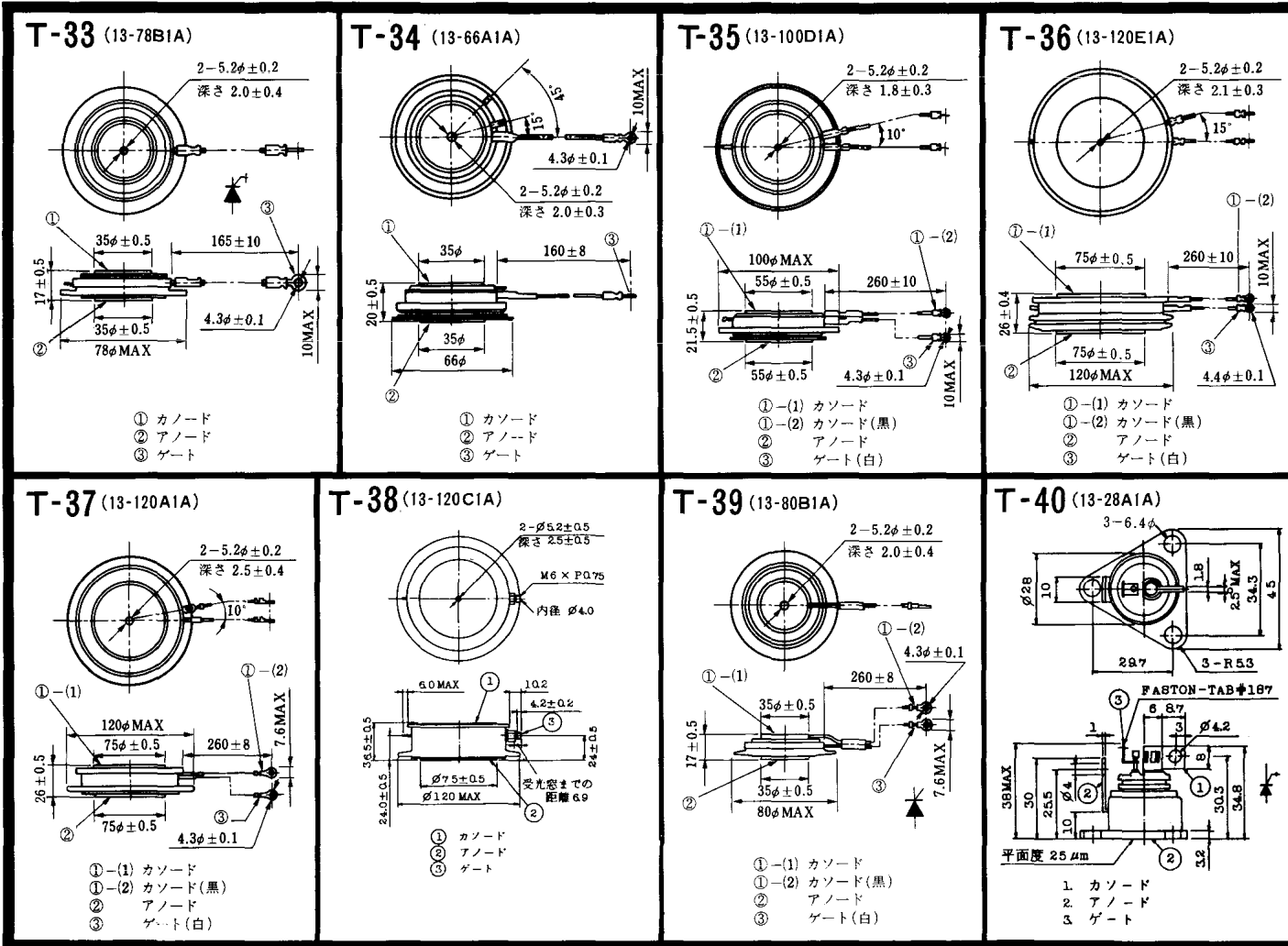
〈寸法図単位：mm〉

<http://store.iicc.cc/>



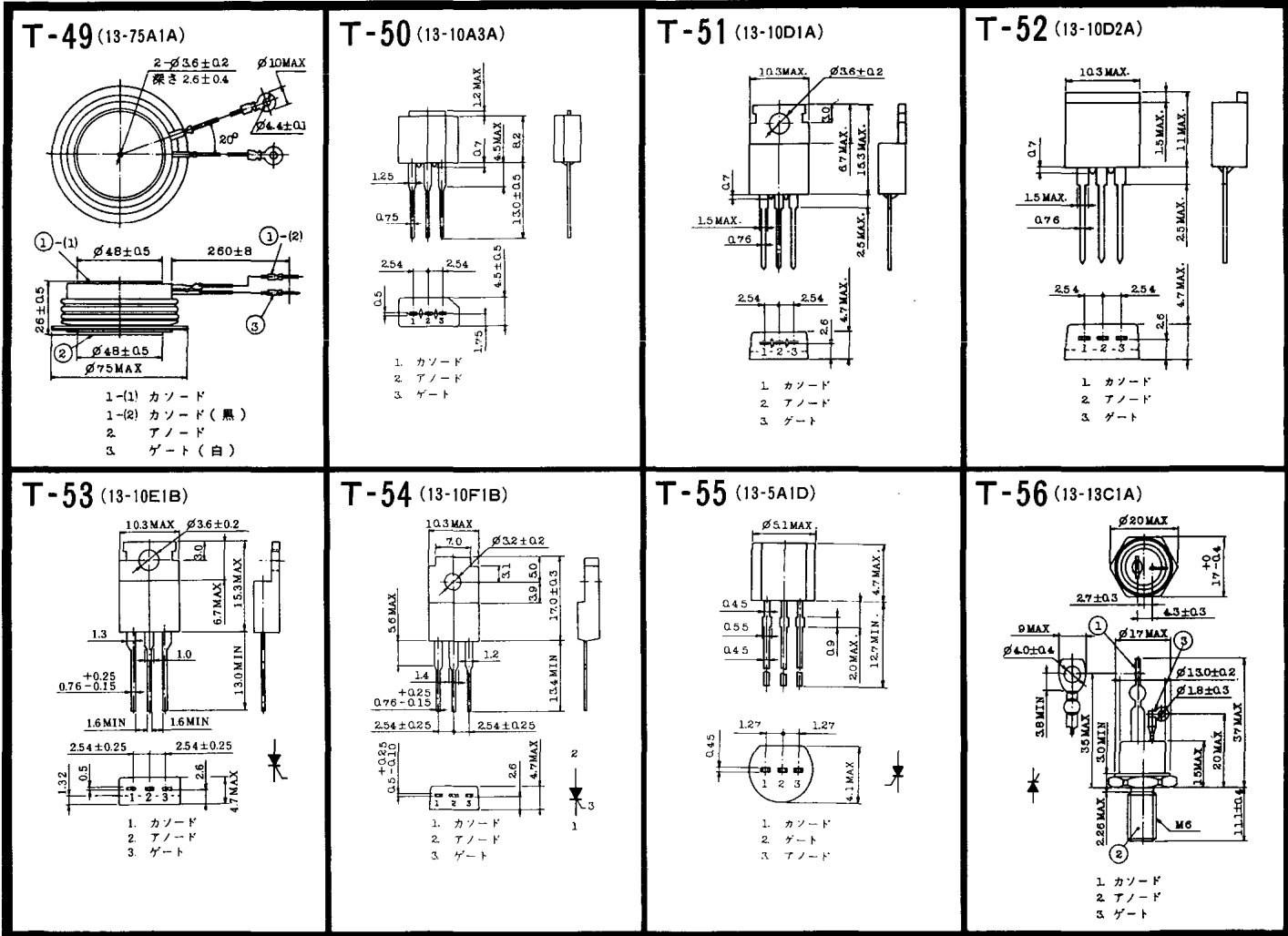
《寸法図単位：mm》

<http://store.iicc.cc/>



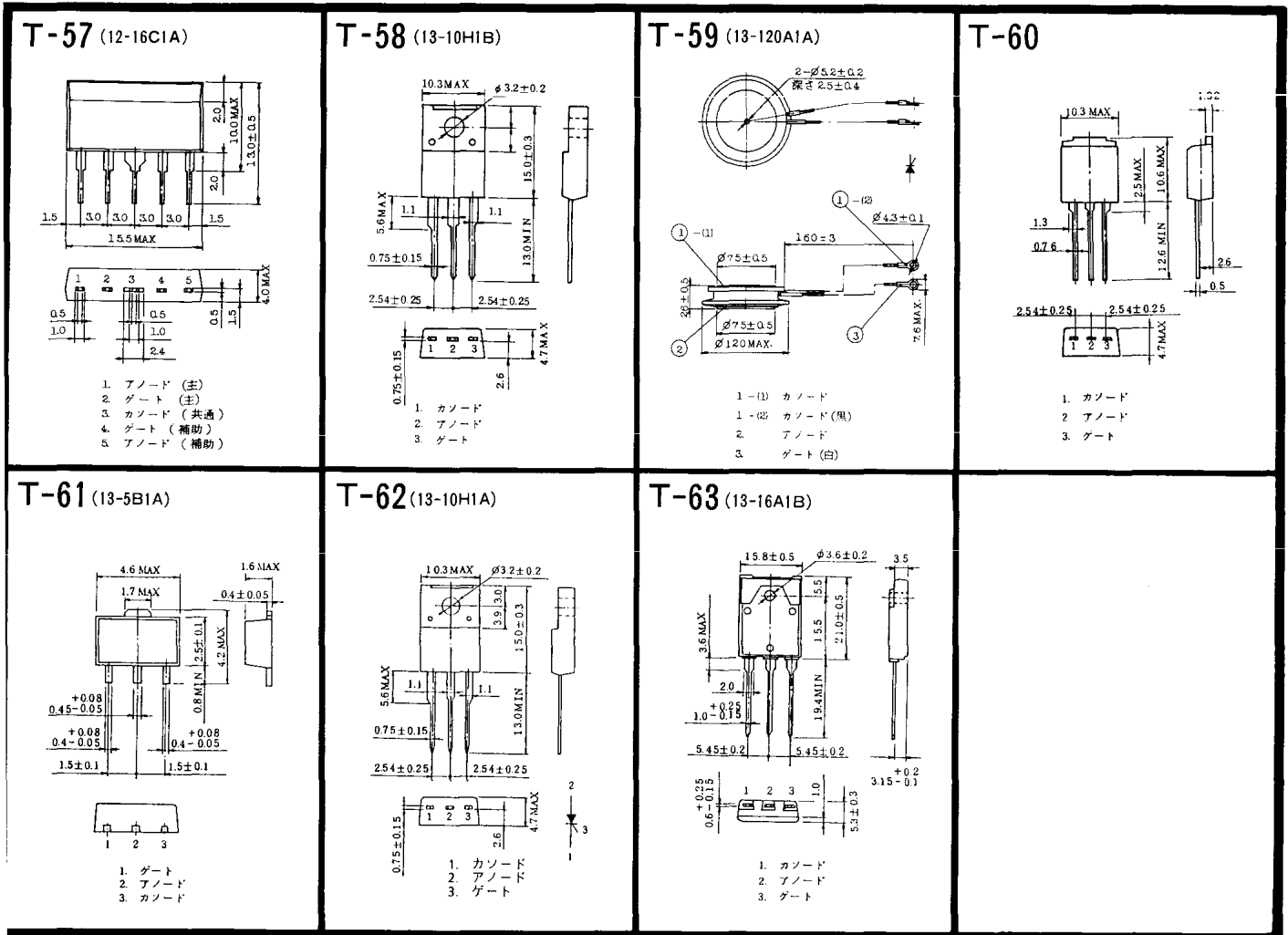
《寸法図単位：mm

<http://store.iic.cc/>



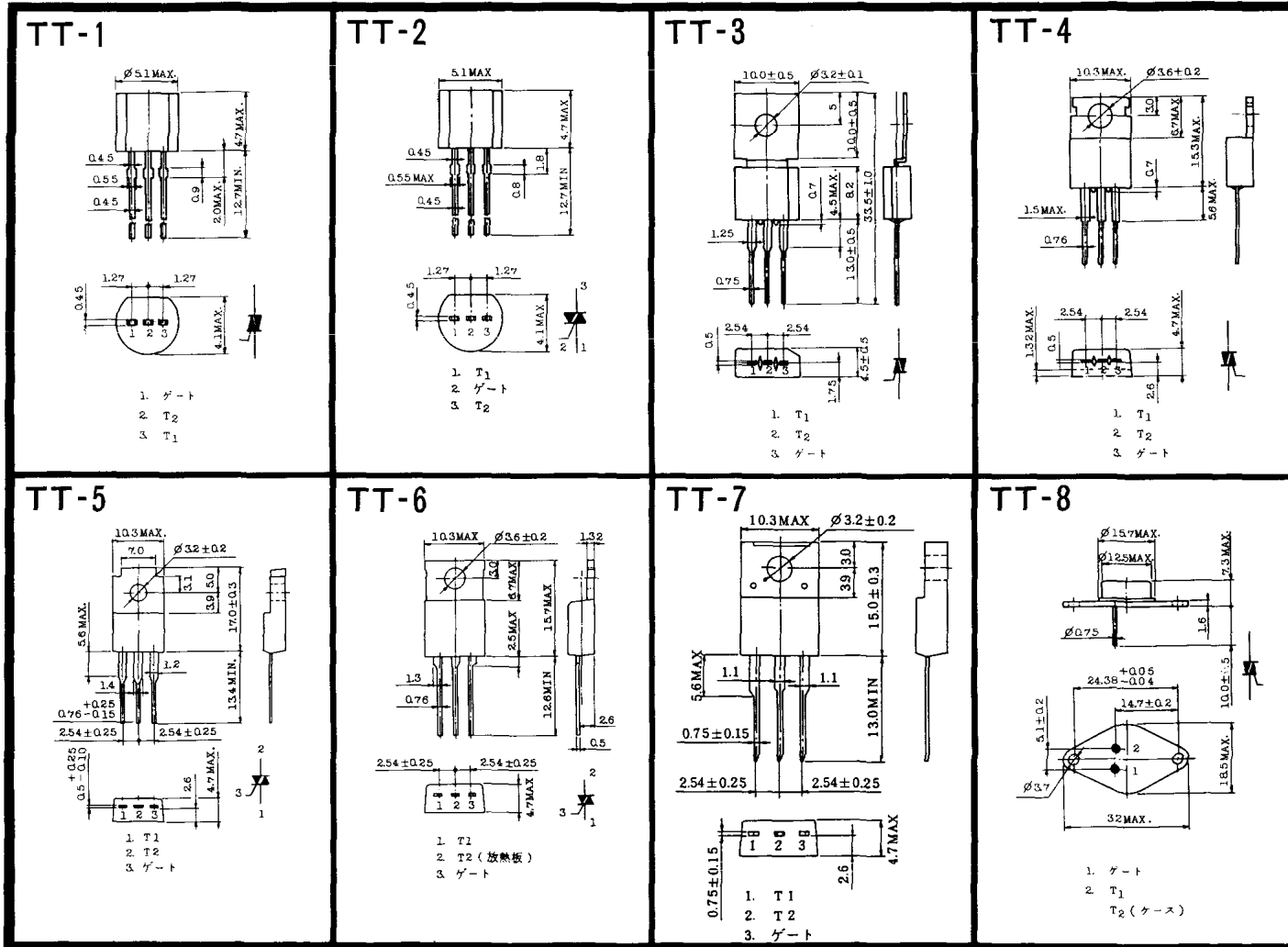
〈寸法図単位:mm〉

<http://store.iicc/>



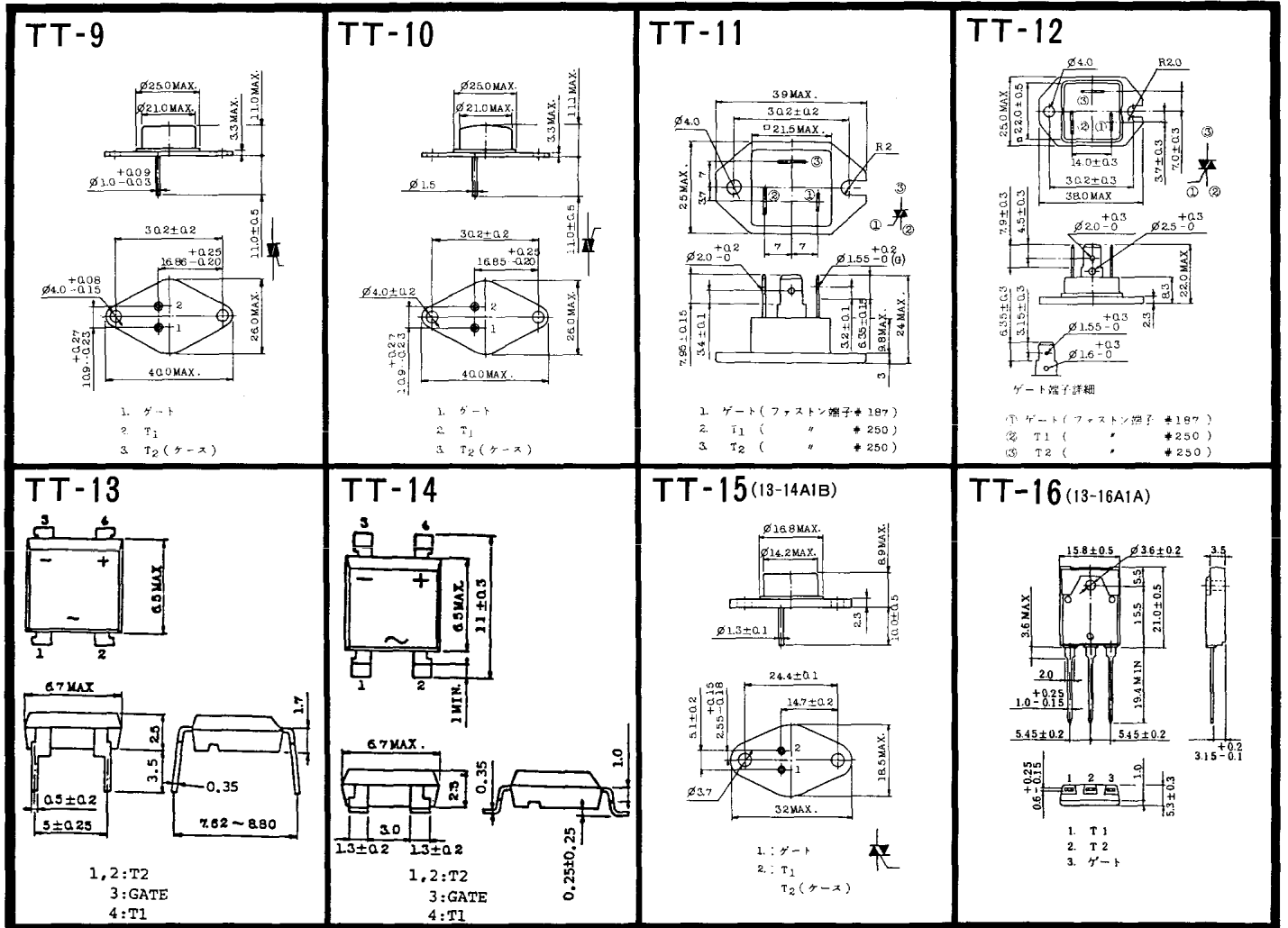
《寸法図単位:mm》

<http://store.iic.cc/>



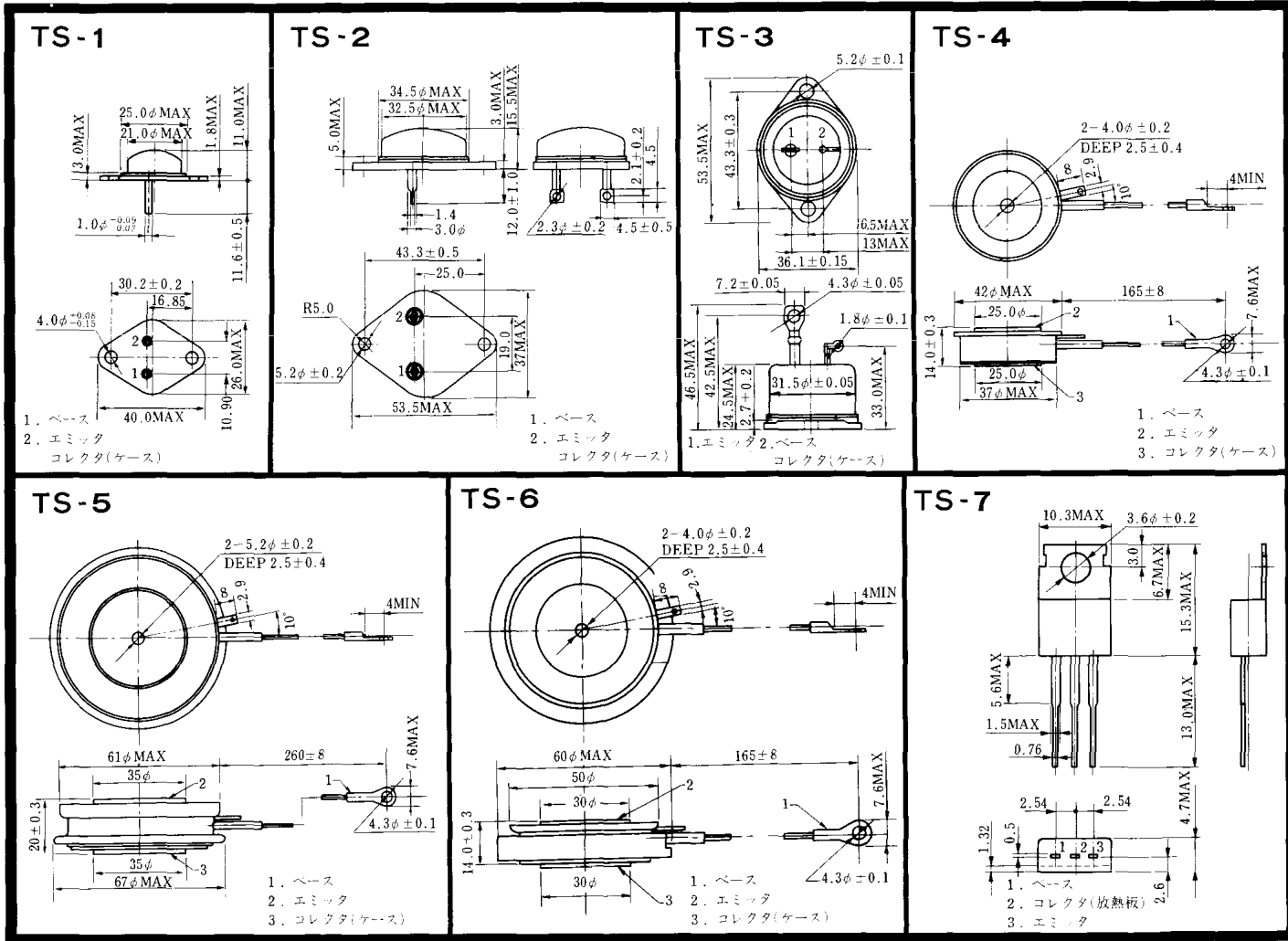
〈寸法図単位: mm〉

<http://store.iic.cc/>



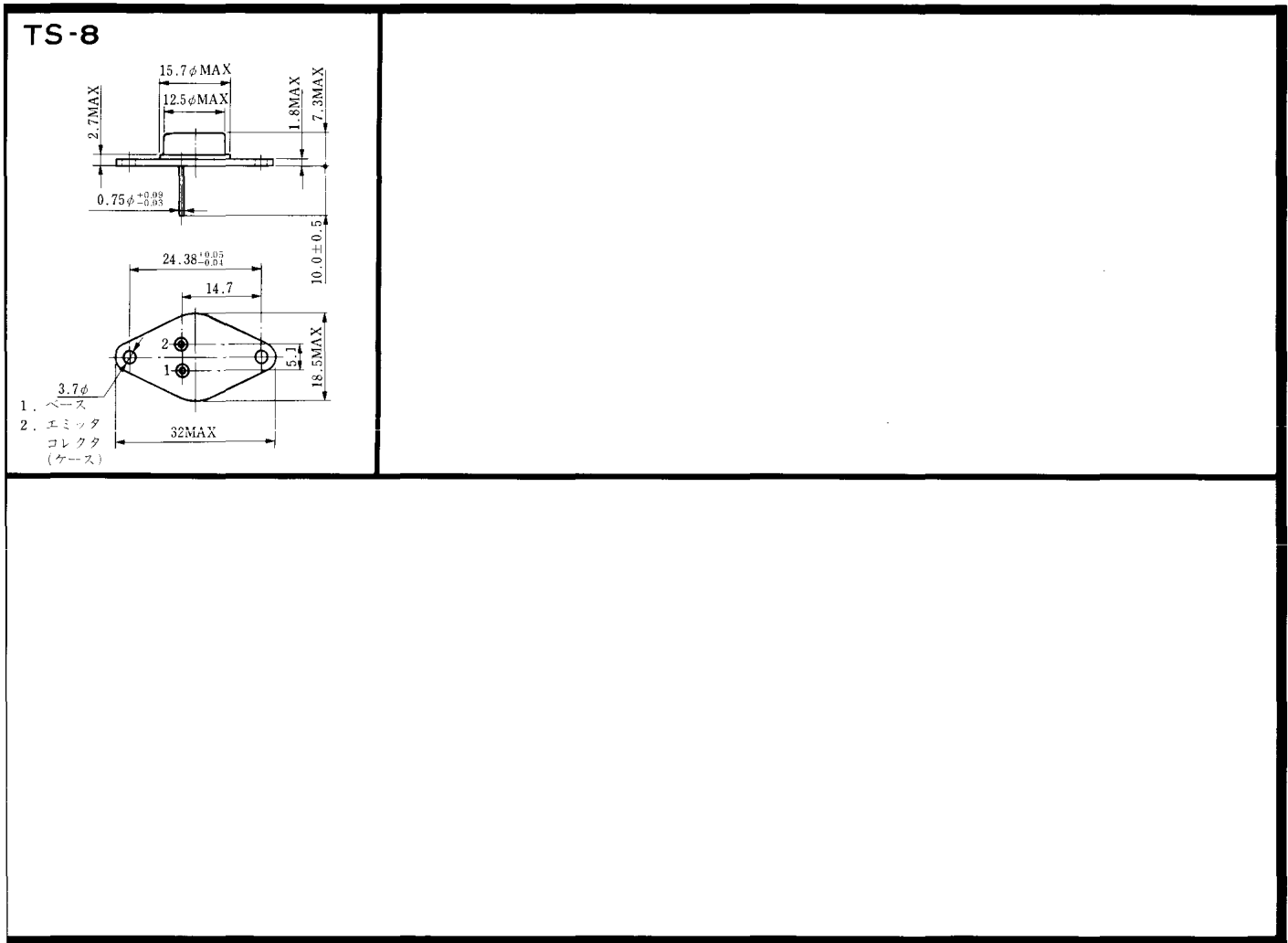
◀寸法図単位: mm▶

<http://store.iic.cc/>



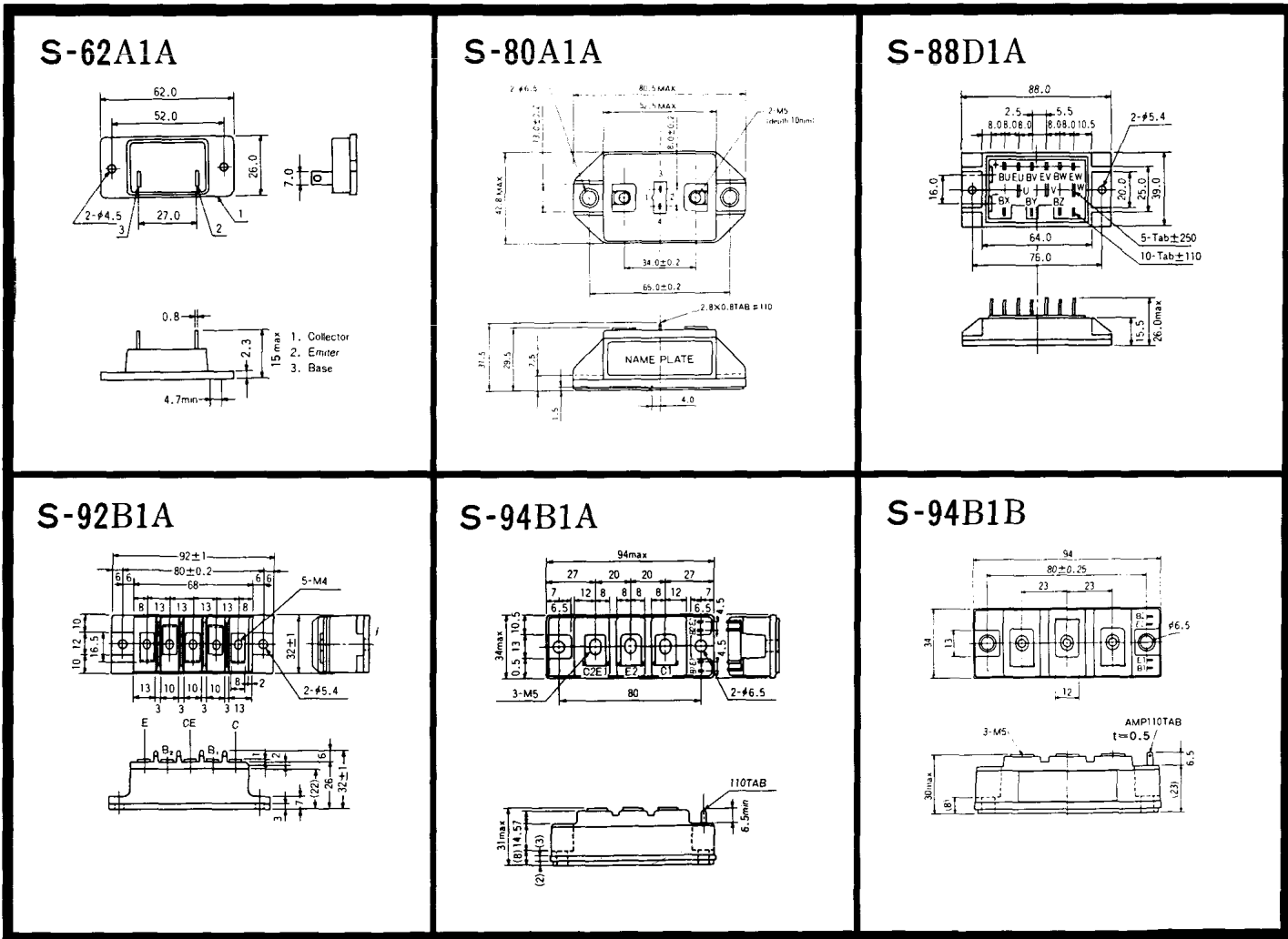
《寸法図単位：mm》

<http://store.iic.cc/>



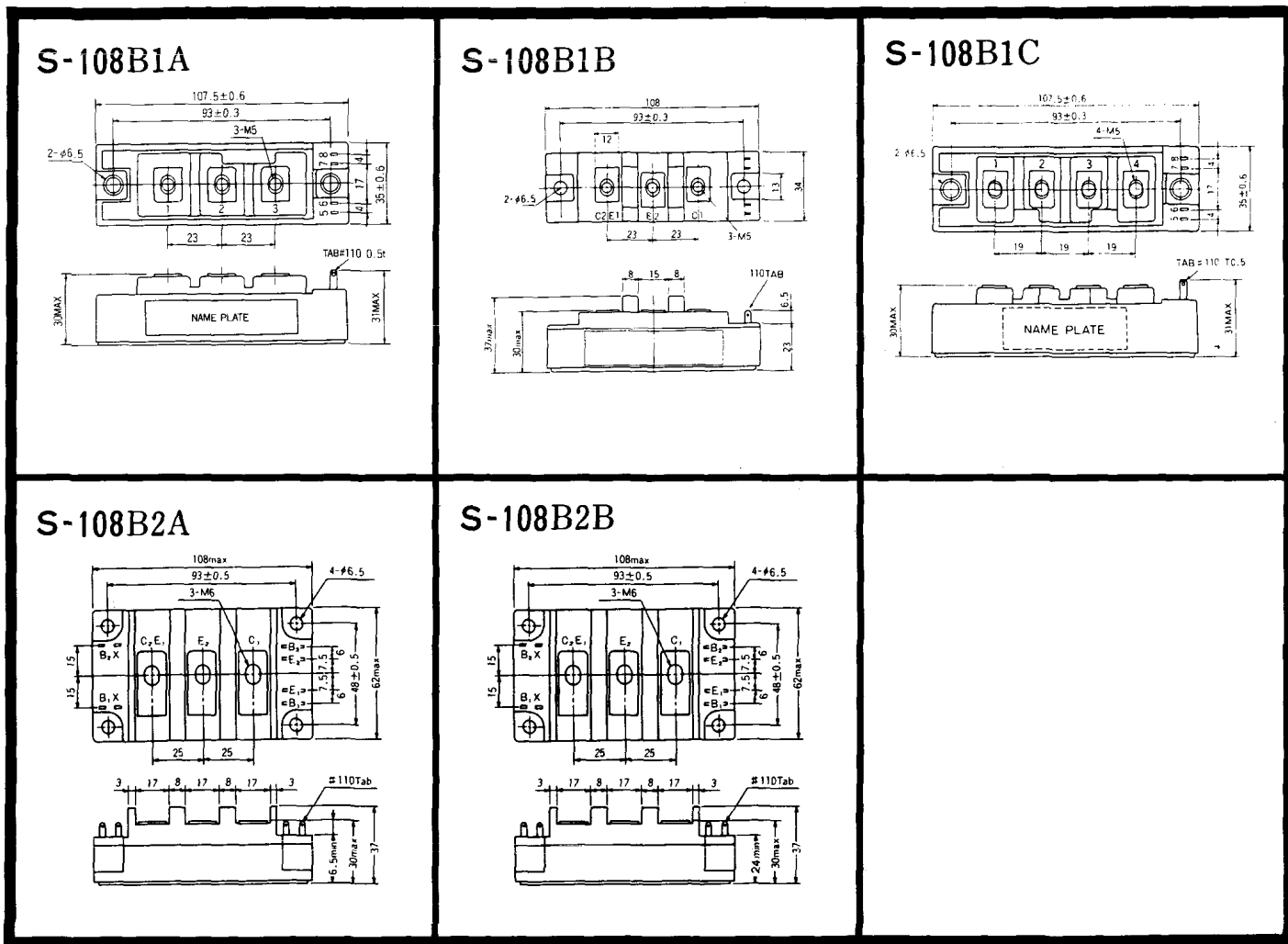
<http://store.iic.cc/>

《寸法図単位：mm》



<http://store.iic.cc/>

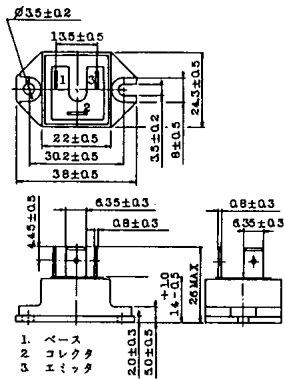
〈寸法図単位：mm〉



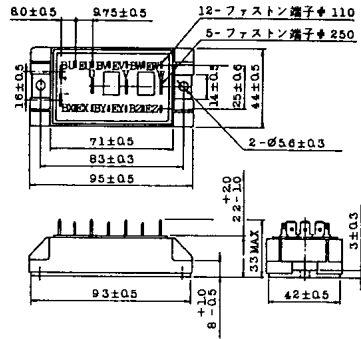
<http://store.iic.cc/>

<寸法图单位:mm>

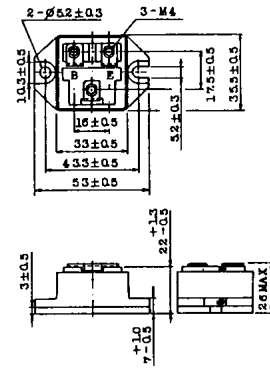
2-22B1A



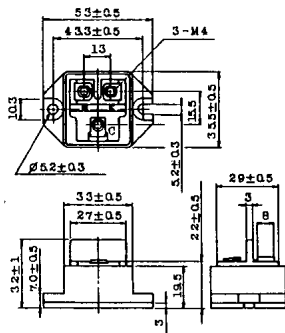
2-27A4A



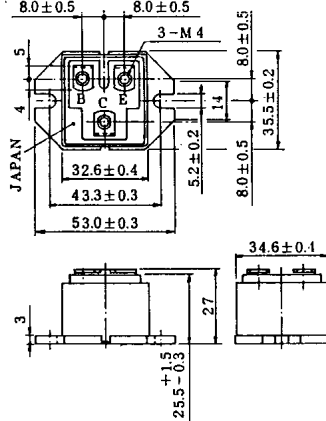
2-33C1A



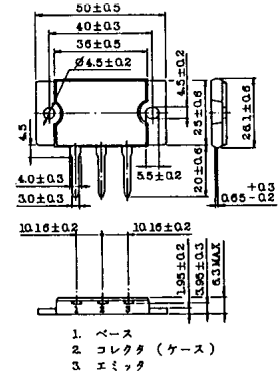
2-33D1A



2-33F1A

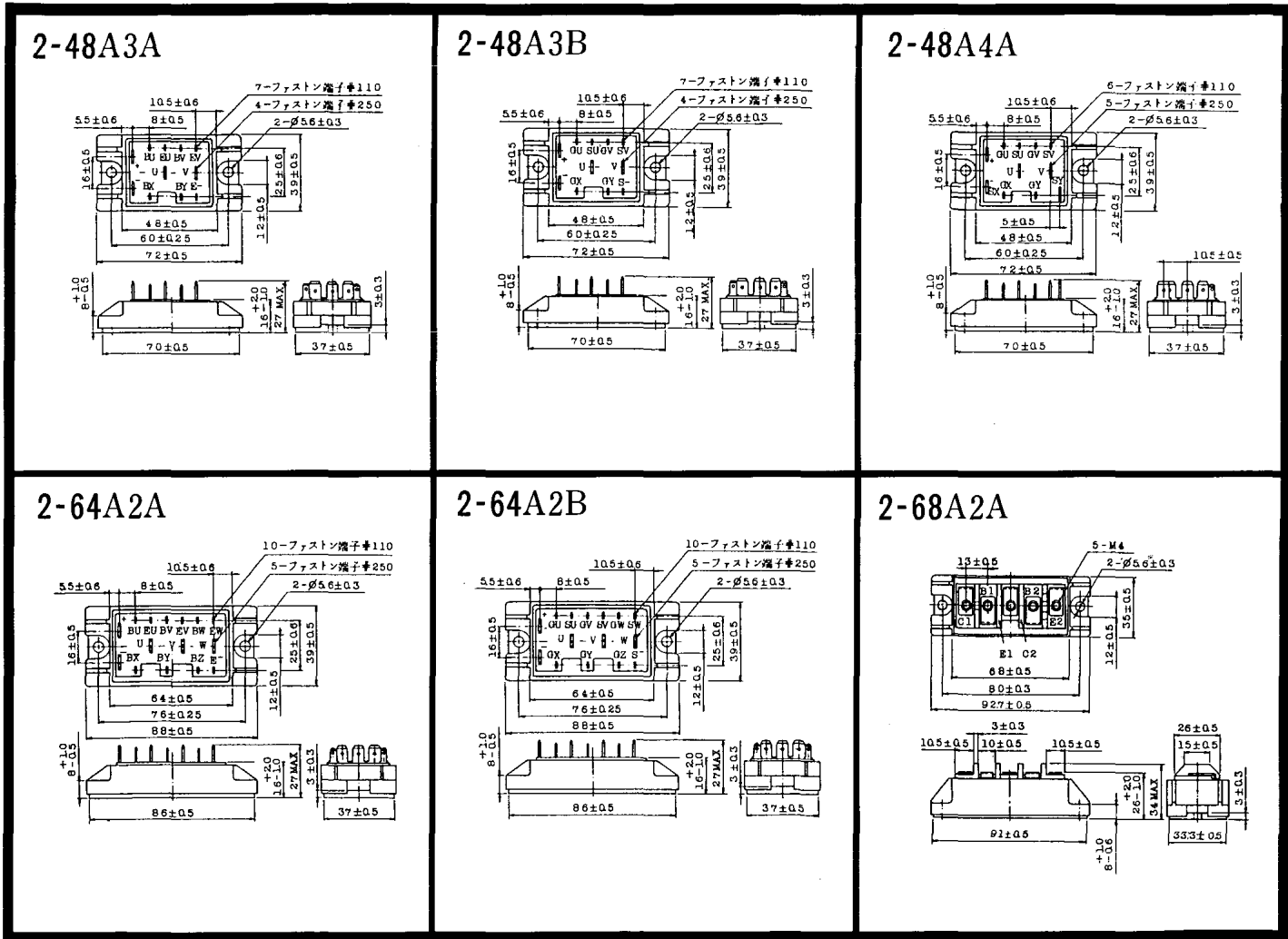


2-37A1A



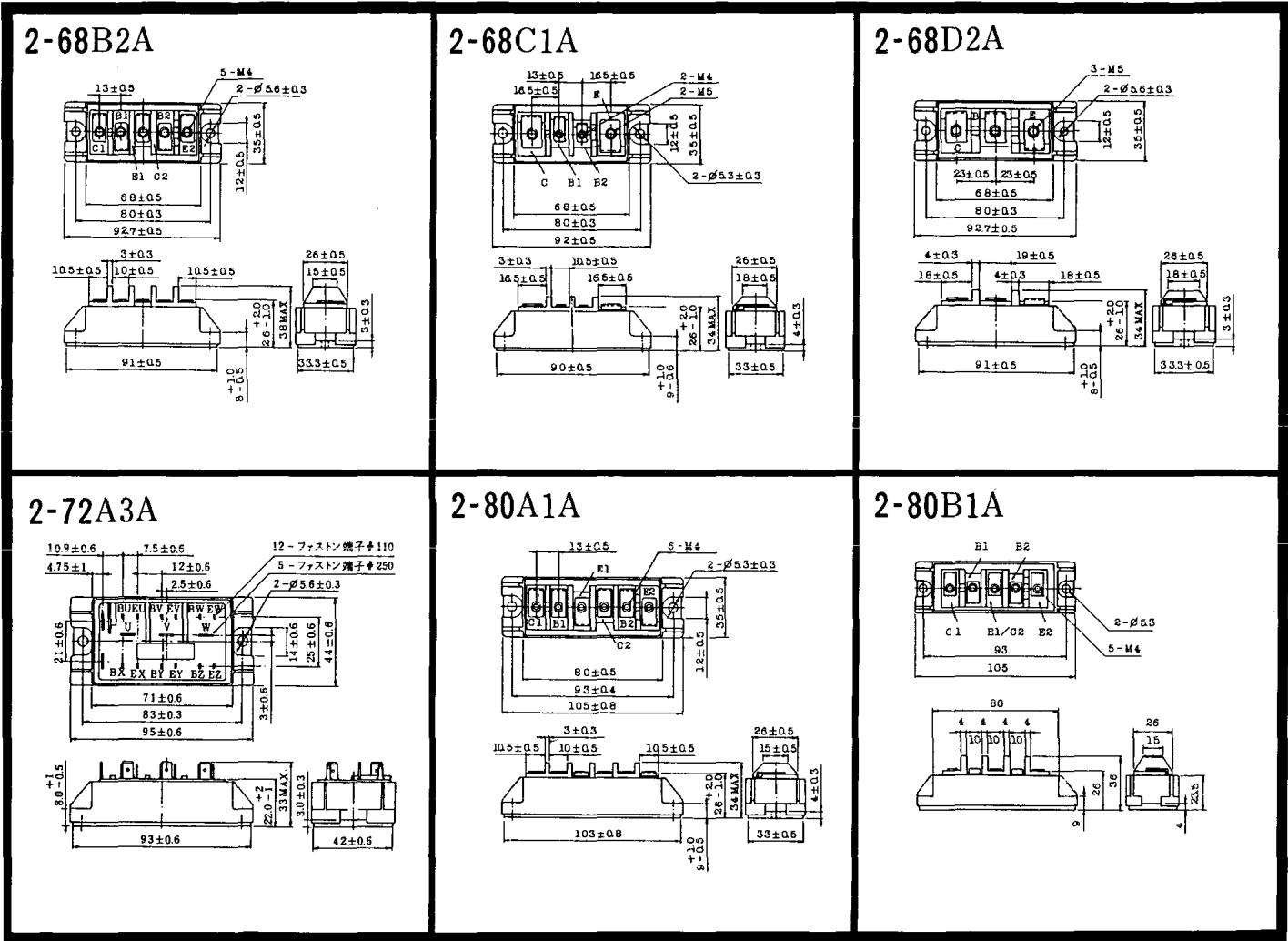
<http://store.iicc.cc/>

《寸法図単位：mm》



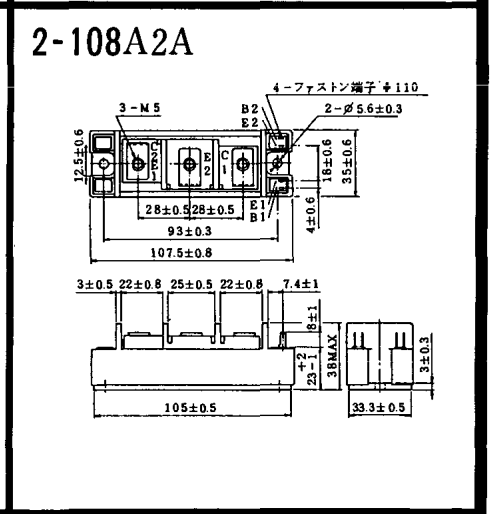
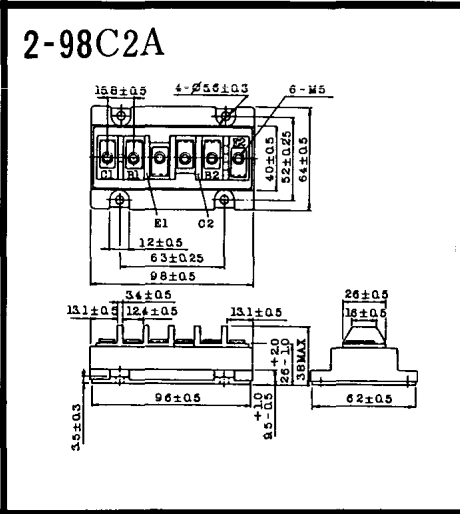
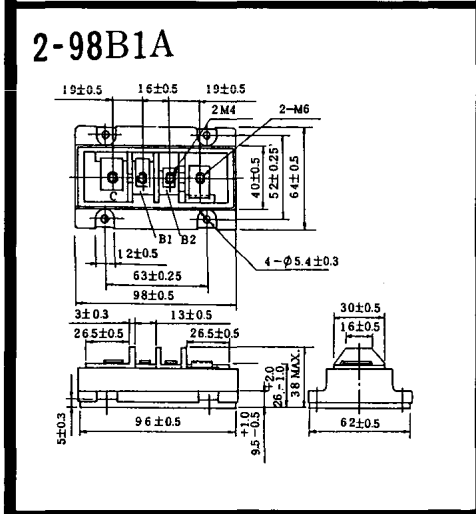
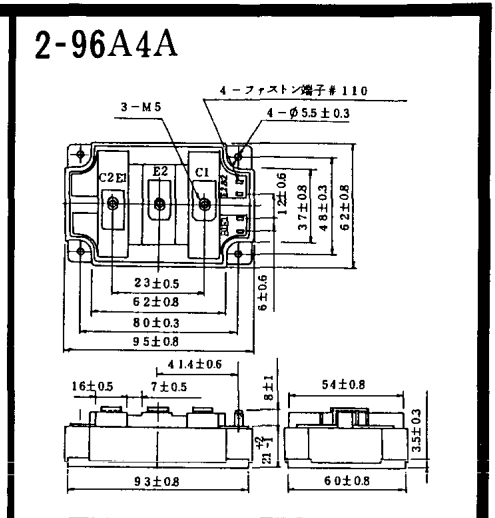
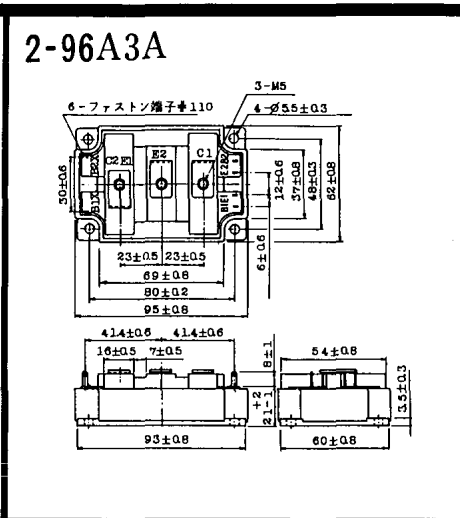
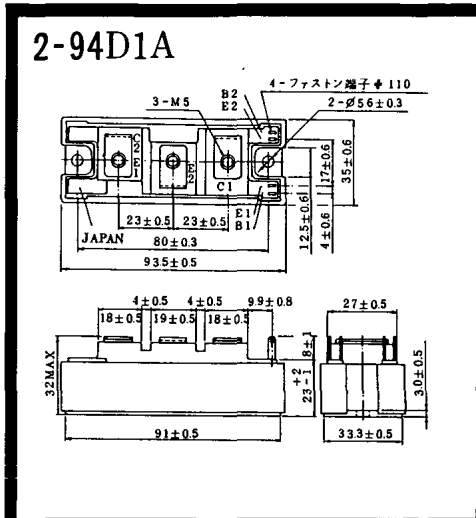
<http://store.iic.cc/>

〈寸法図単位：mm〉



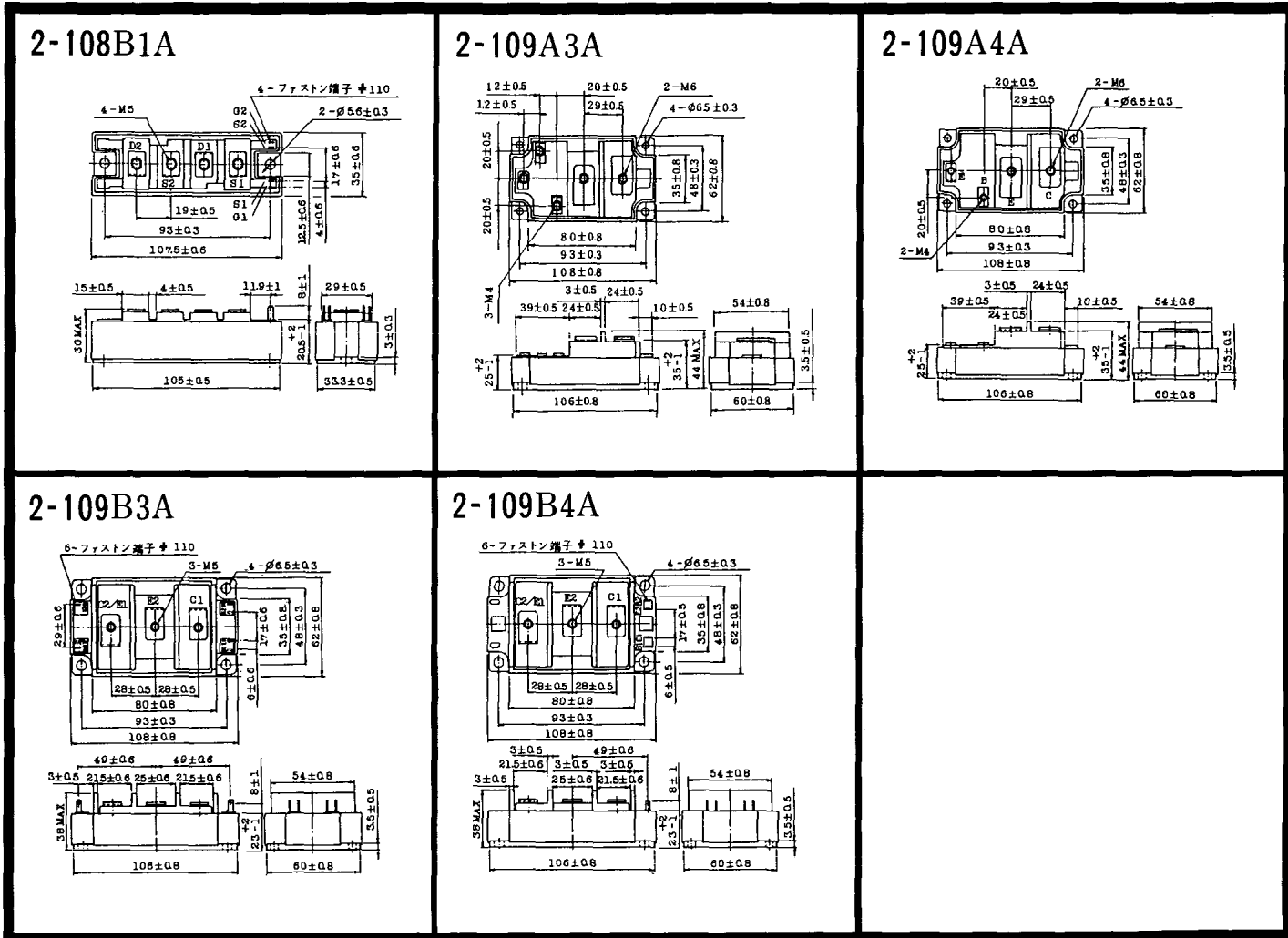
<http://store.iicc/>

〈寸法図単位：mm〉



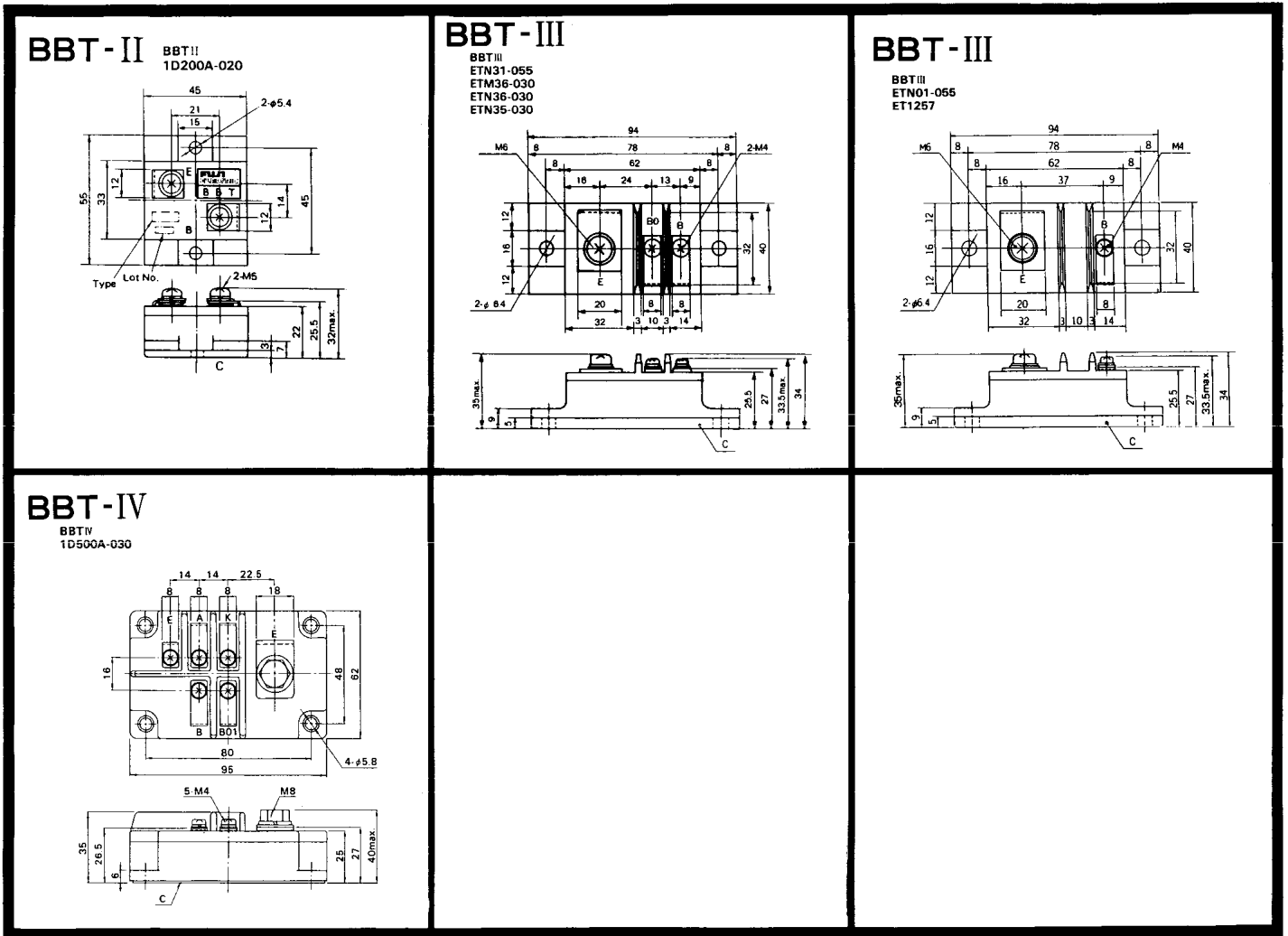
<http://store.iicc/>

《寸法図単位：mm》



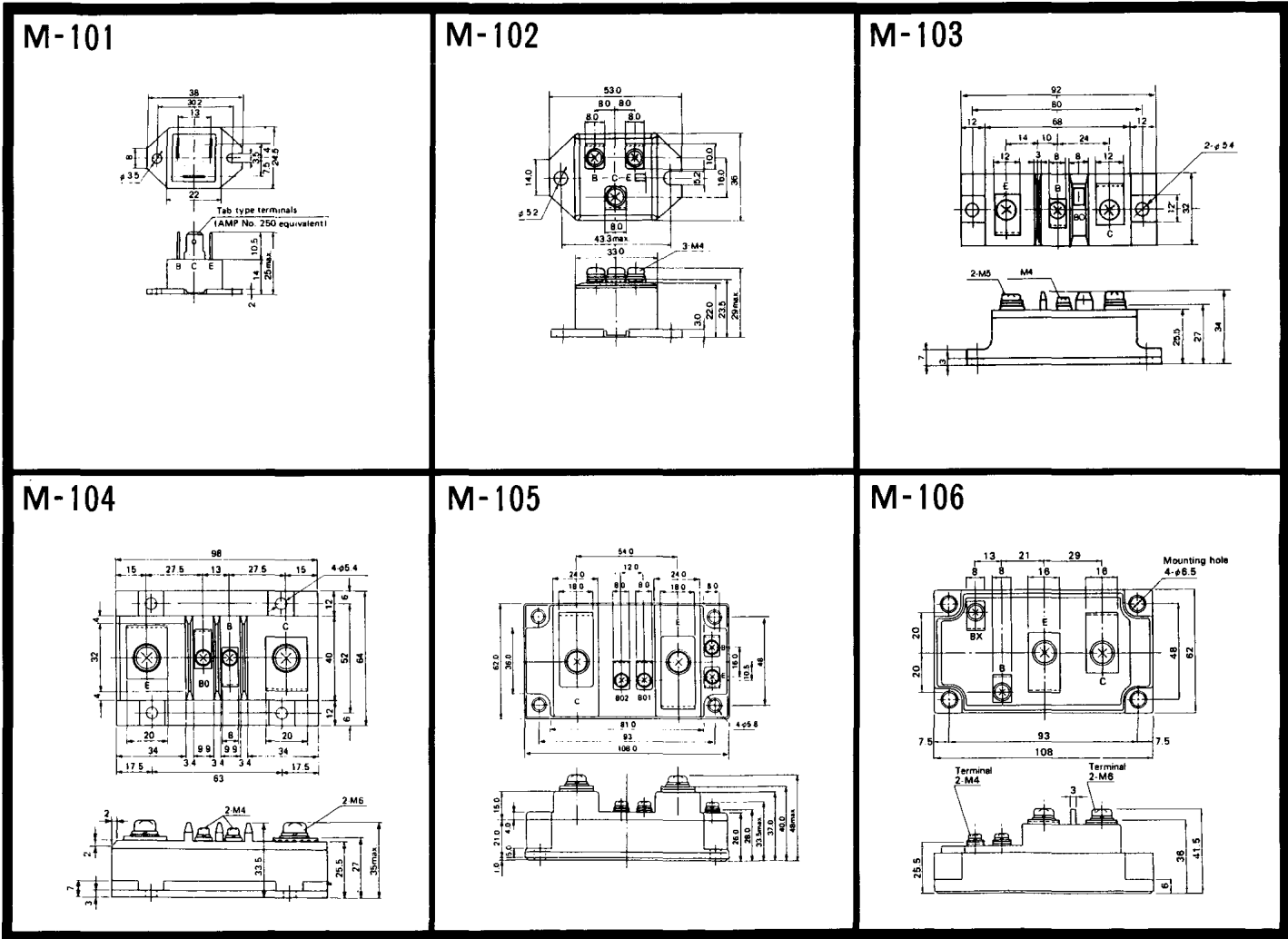
<寸法図単位: mm>

<http://store.iic.cc/>



<http://store.iic.cc/>

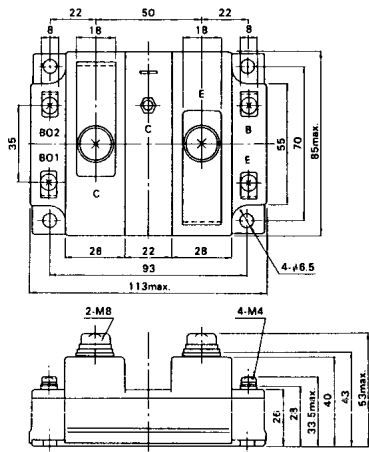
〈寸法图单位:mm〉



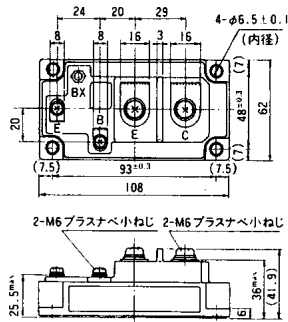
<http://store.iicc.cc/>

〈寸法図単位：mm〉

M-107

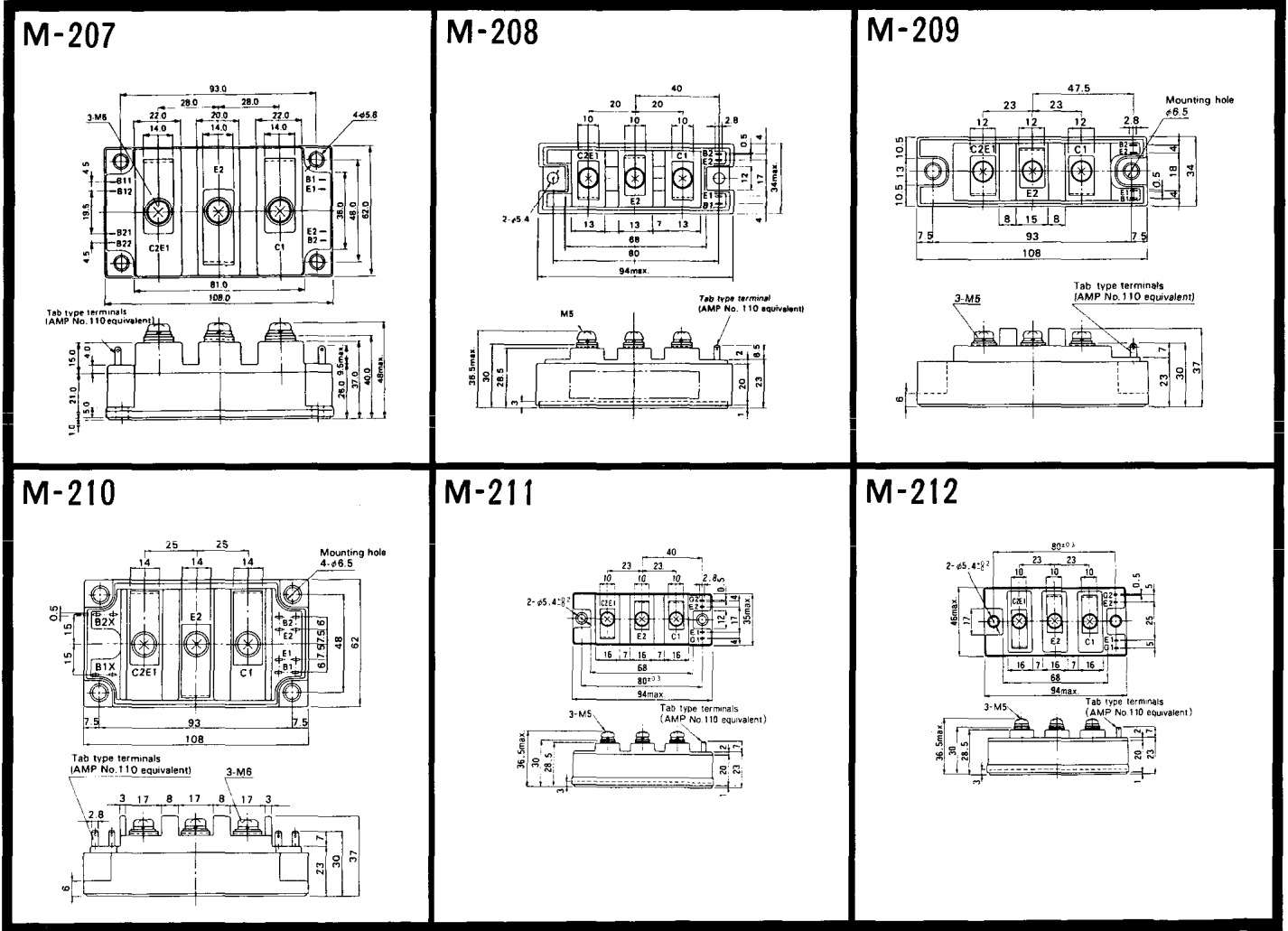


M-116



<http://store.iic.cc/>

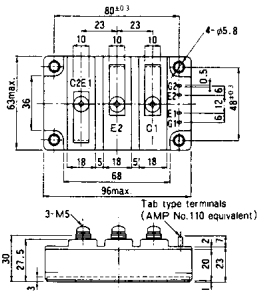
〈寸法図単位：mm〉



《寸法図単位：mm》

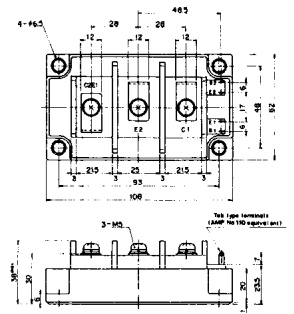
<http://store.iic.cc/>

M-213

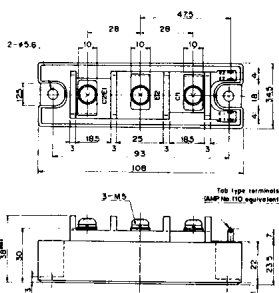


M-214

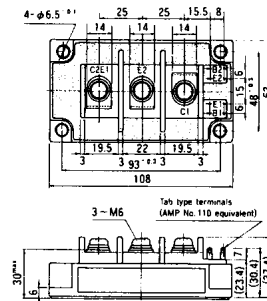
M-215



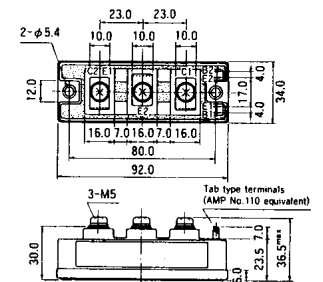
M-216



M-217



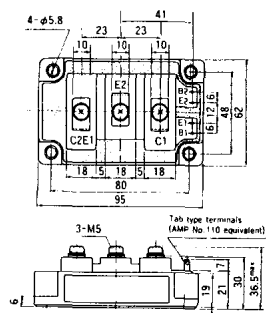
M-218



〈 寸法図単位:mm 〉

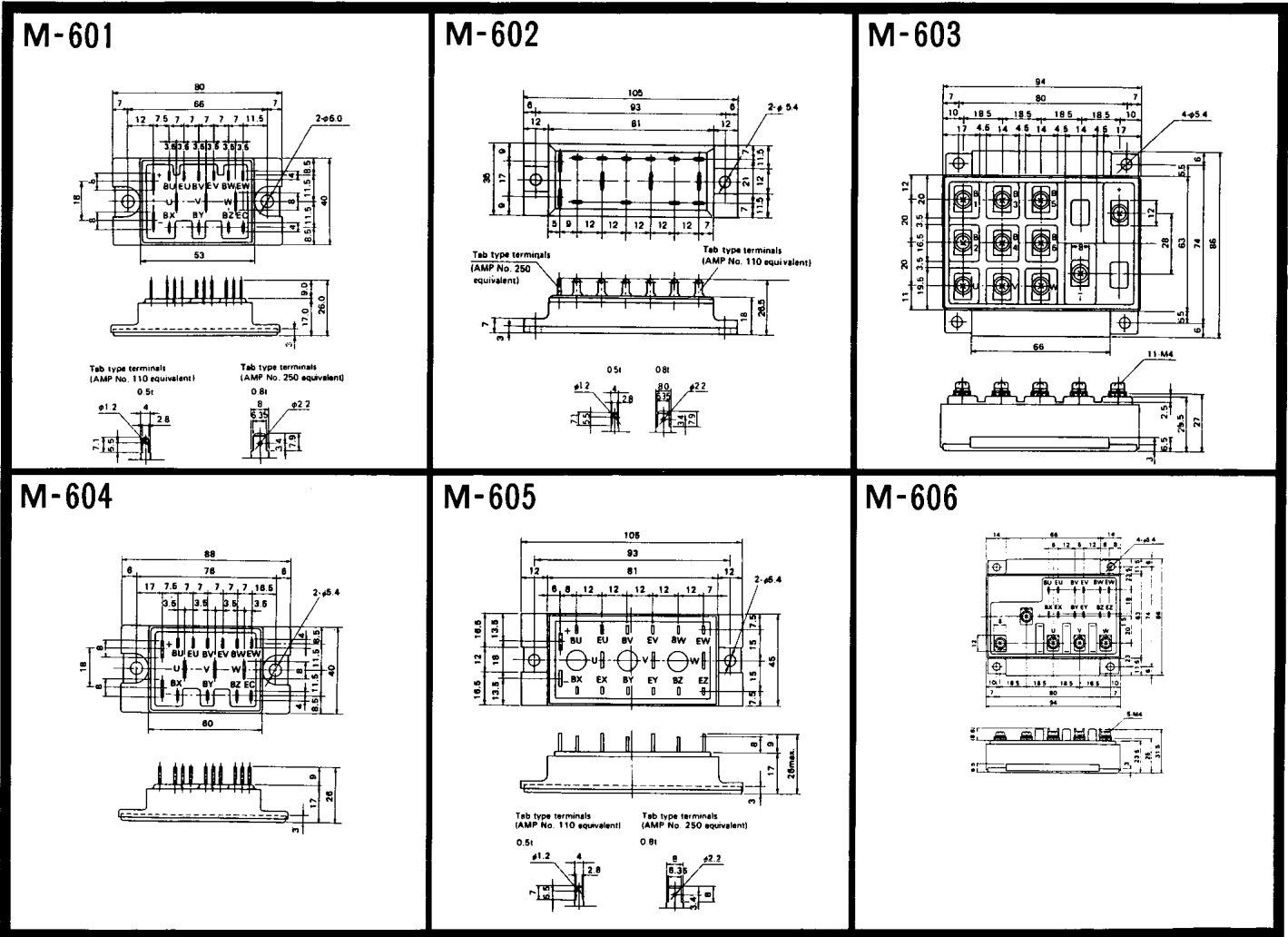
<http://store.iicc.cc/>

M-219



〈寸法図単位:mm〉

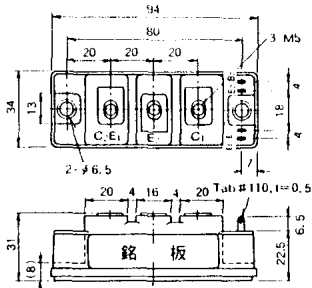
<http://store.iic.cc/>



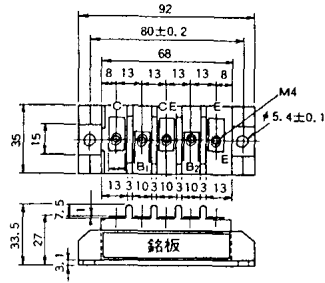
《寸法図単位：mm》

<http://store.iicc.cc/>

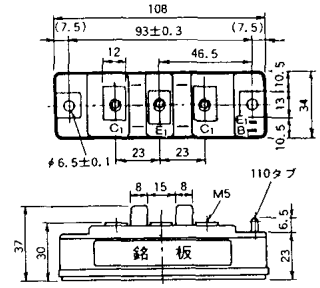
M-4A2B



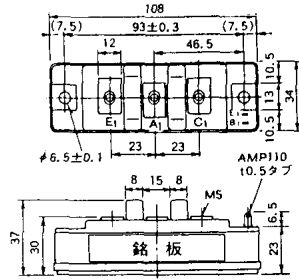
M-4B2A



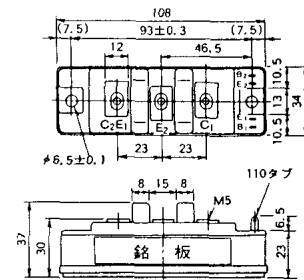
M-5A1A



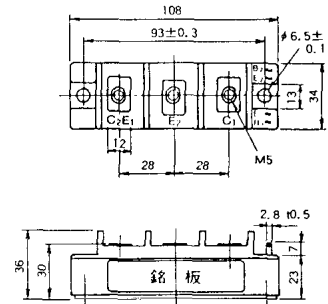
M-5A1B



M-5A2A



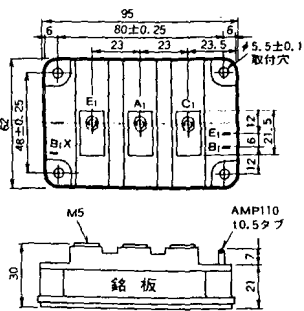
M-5B2A



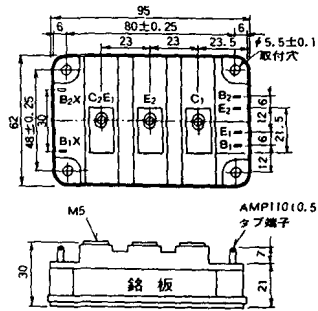
《寸法図単位:mm》

<http://store.iic.cc/>

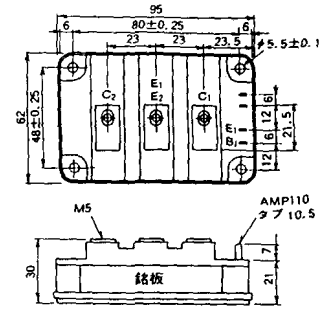
M-8A1B



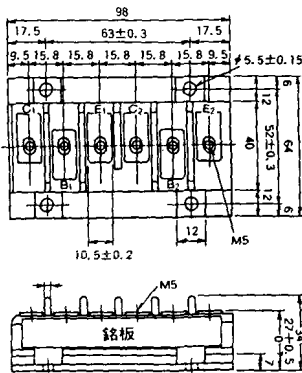
M-8A2A



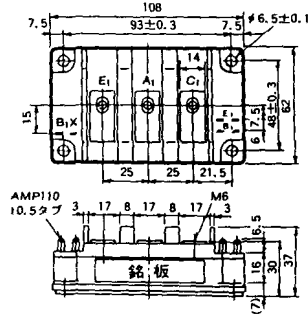
M-8A2B



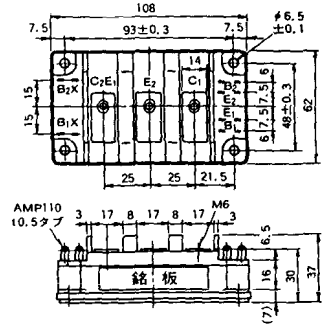
M-8B2A



M-9A1A

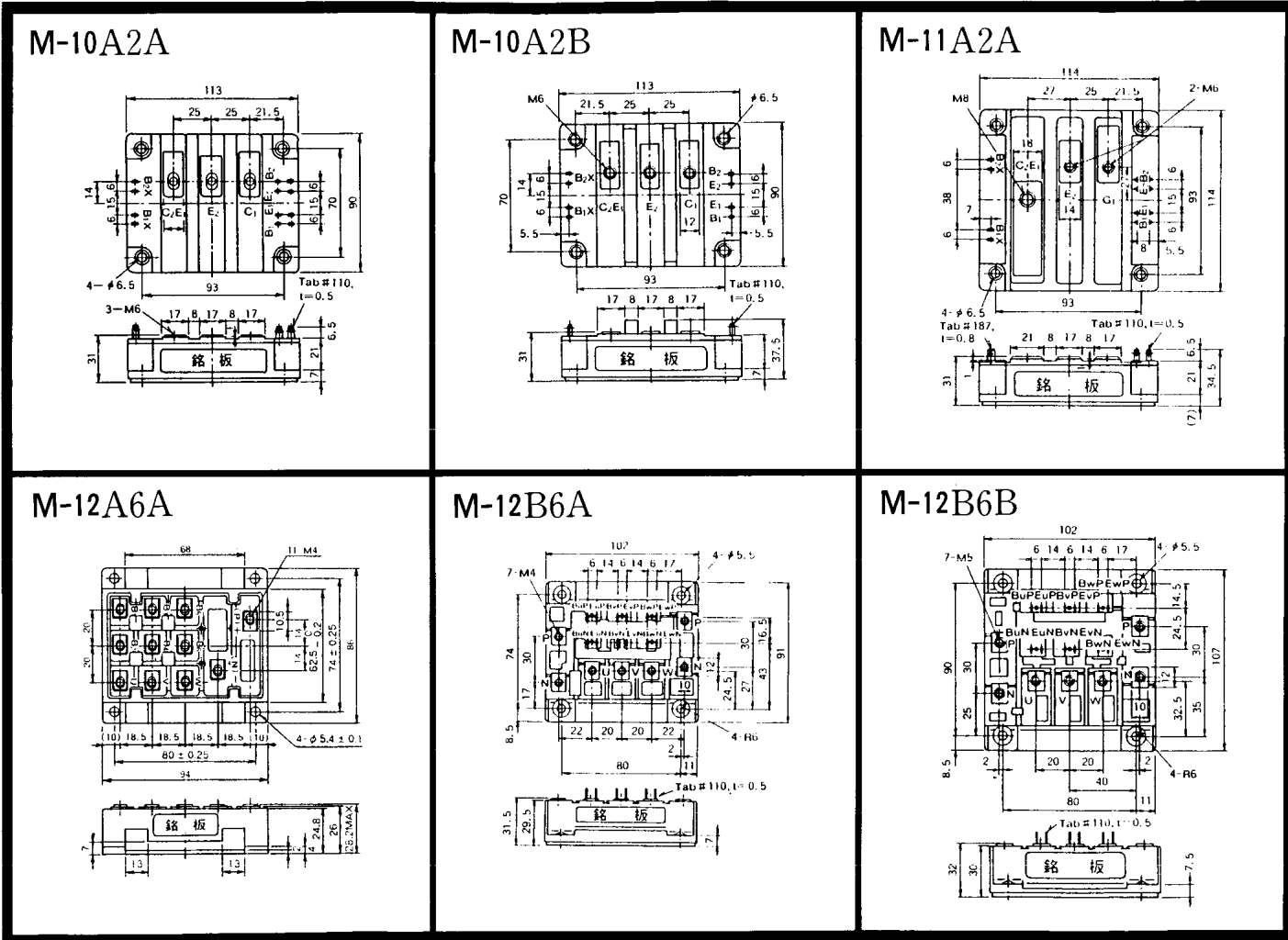


M-9A2A



《寸法図単位:mm》

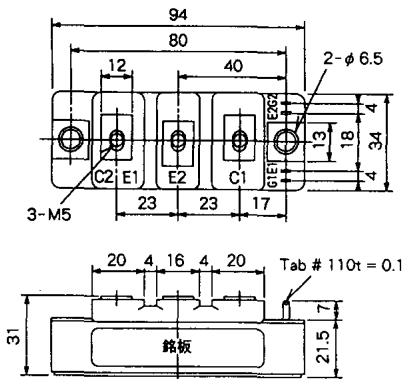
<http://store.iic.cc/>



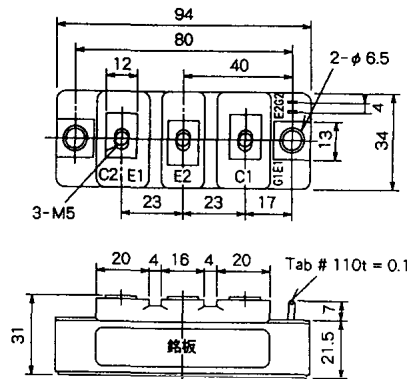
《寸法図単位：mm》

<http://store.iicc/>

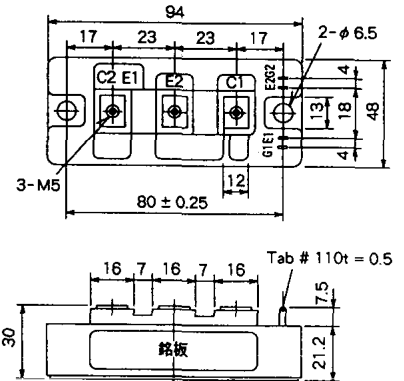
M-4A2D



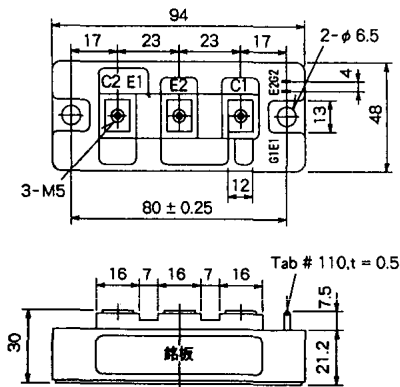
M-4A2E



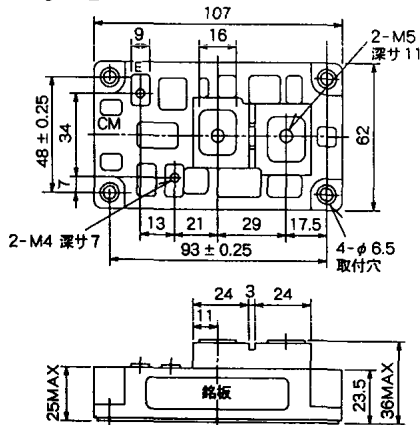
M-4C2A



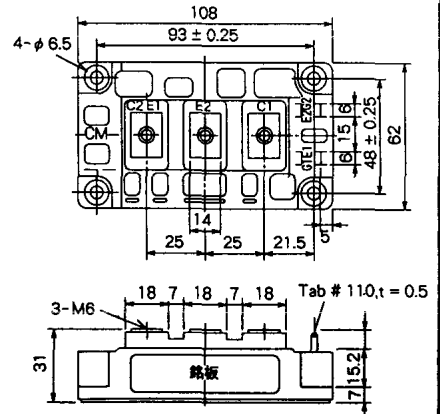
M-4C2B



M-9B1C

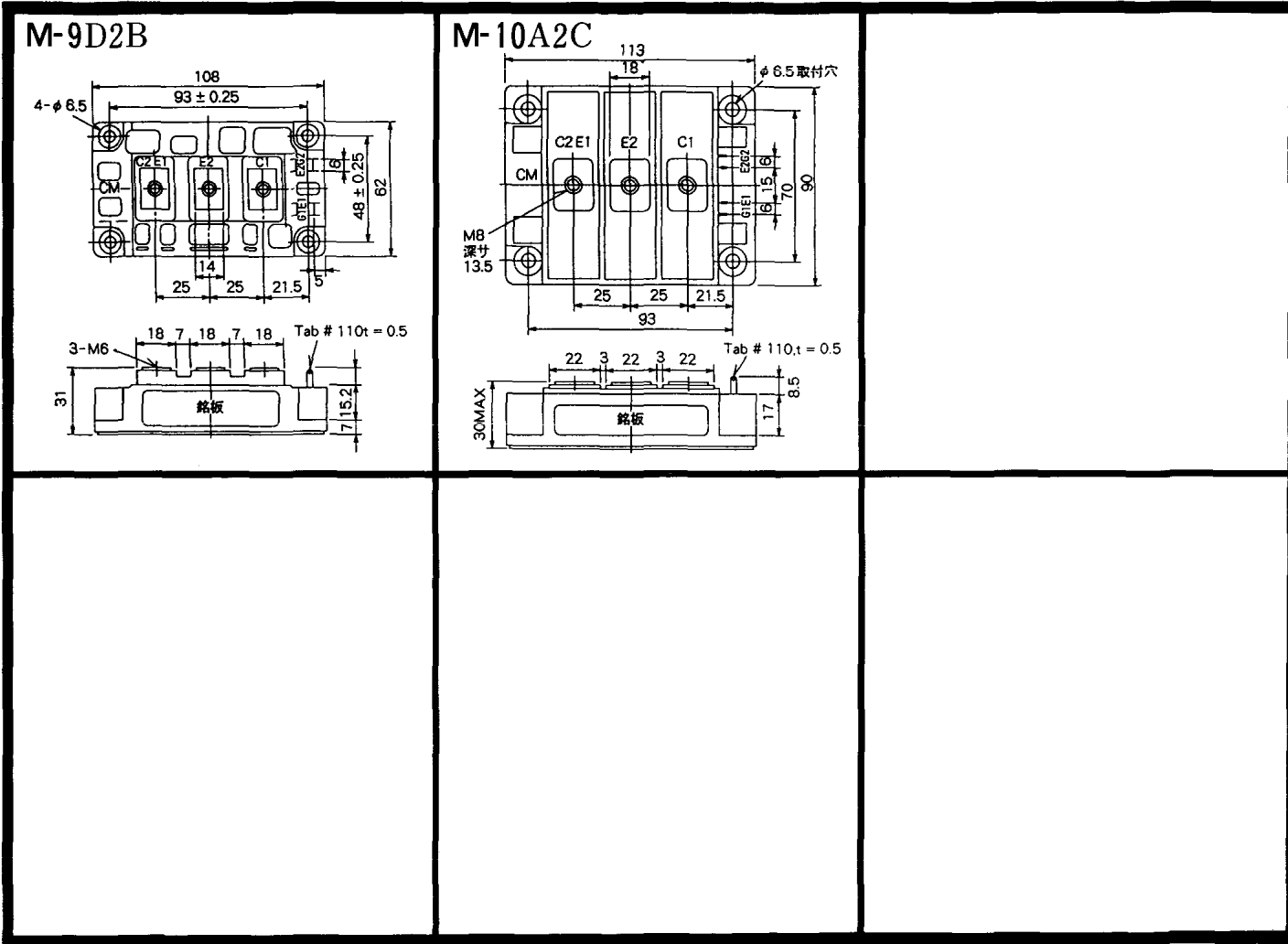


M-9D2A



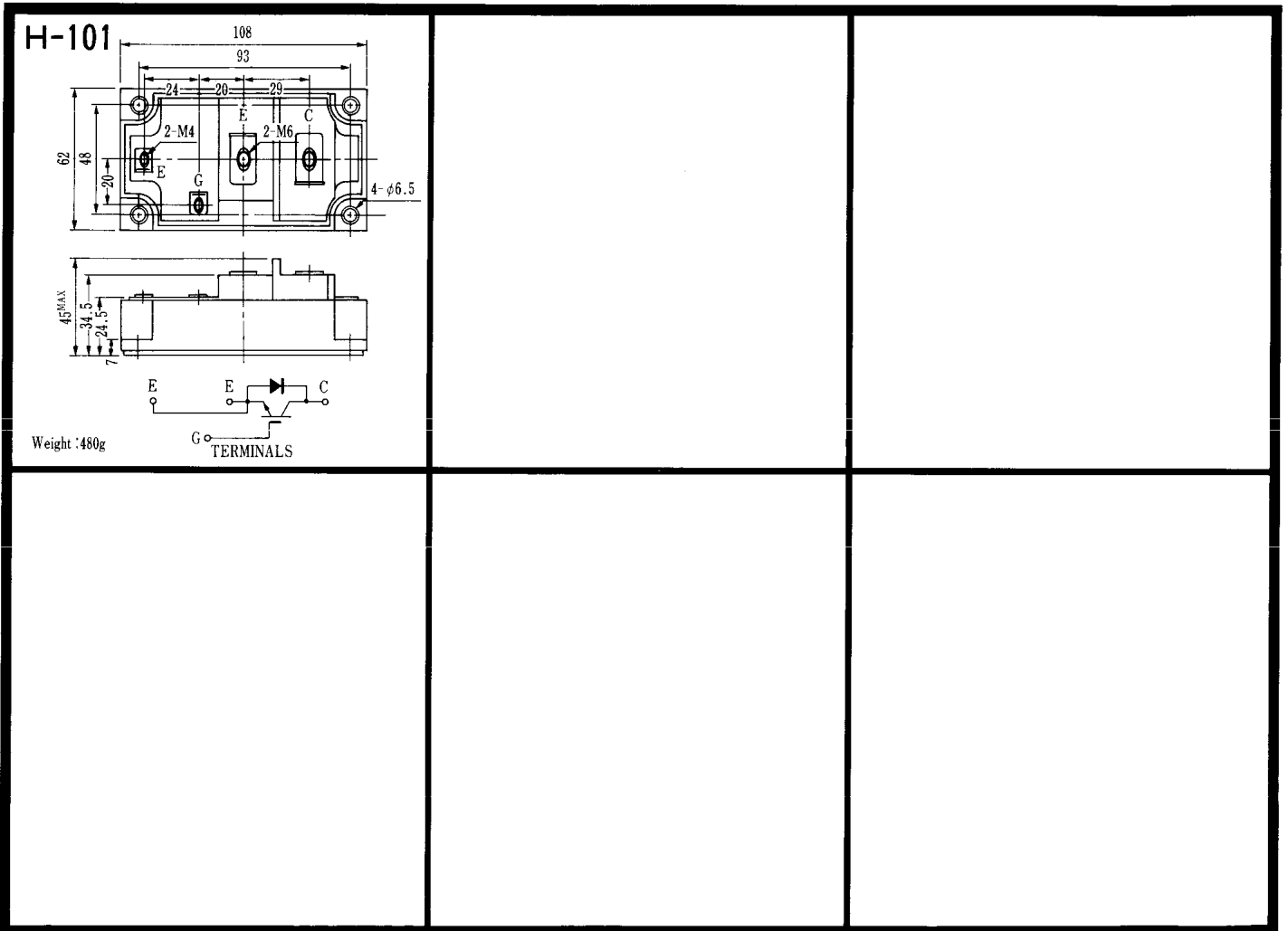
〈寸法図単位：mm〉

<http://store.iic.cc/>



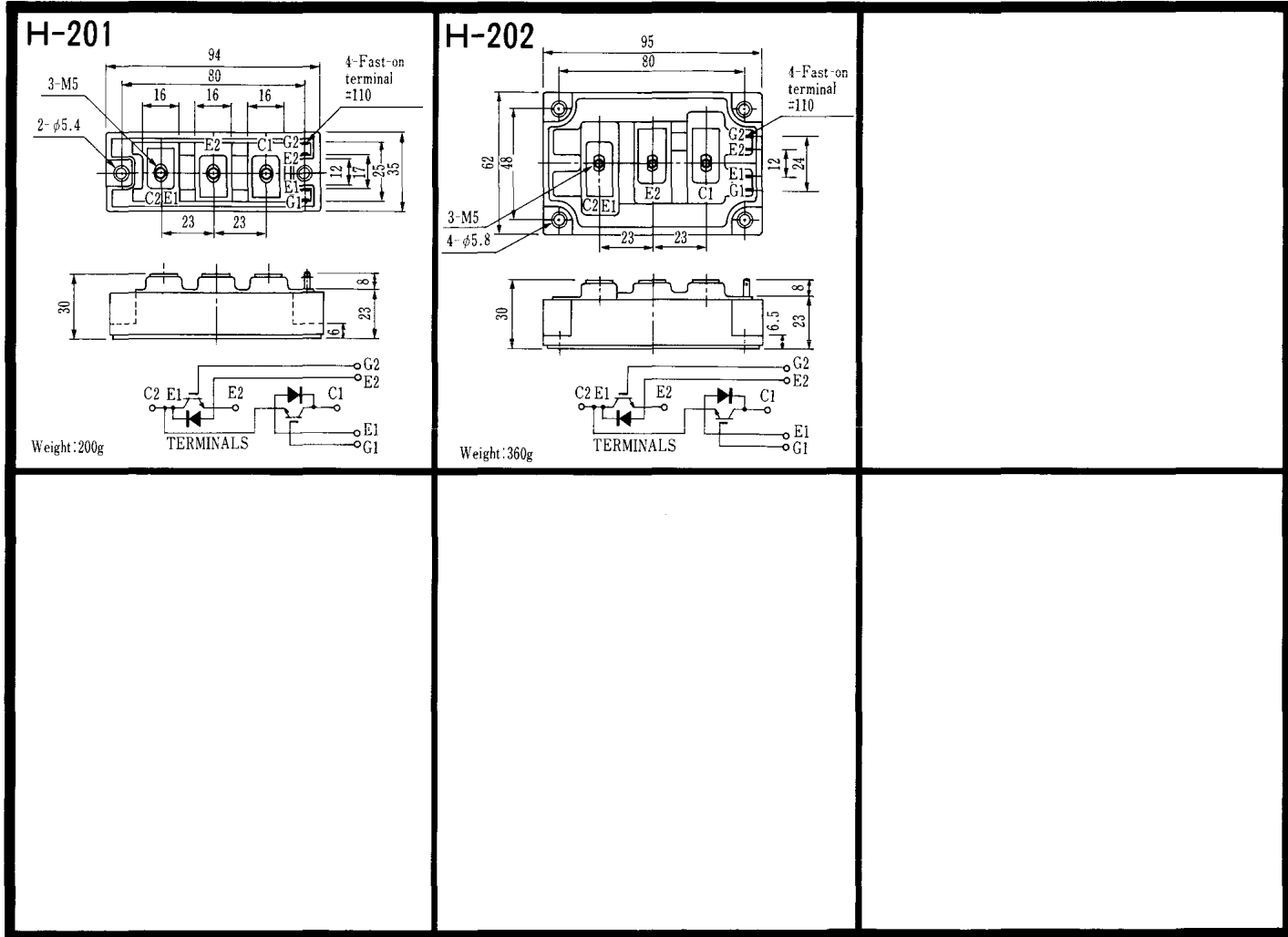
〈寸法図単位：mm〉

<http://store.iic.cc/>



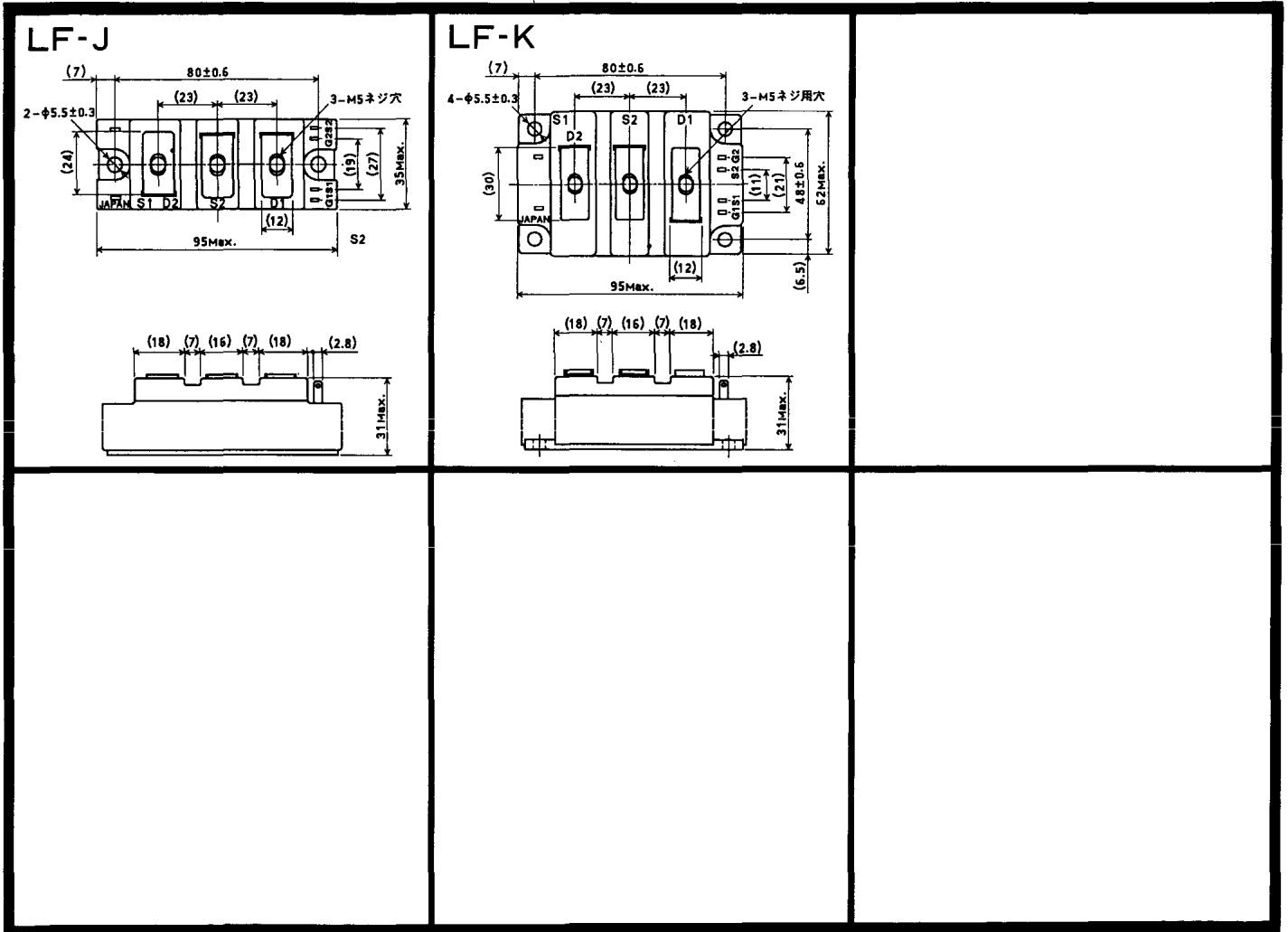
<http://store.iic.cc/>

《寸法图单位:mm》



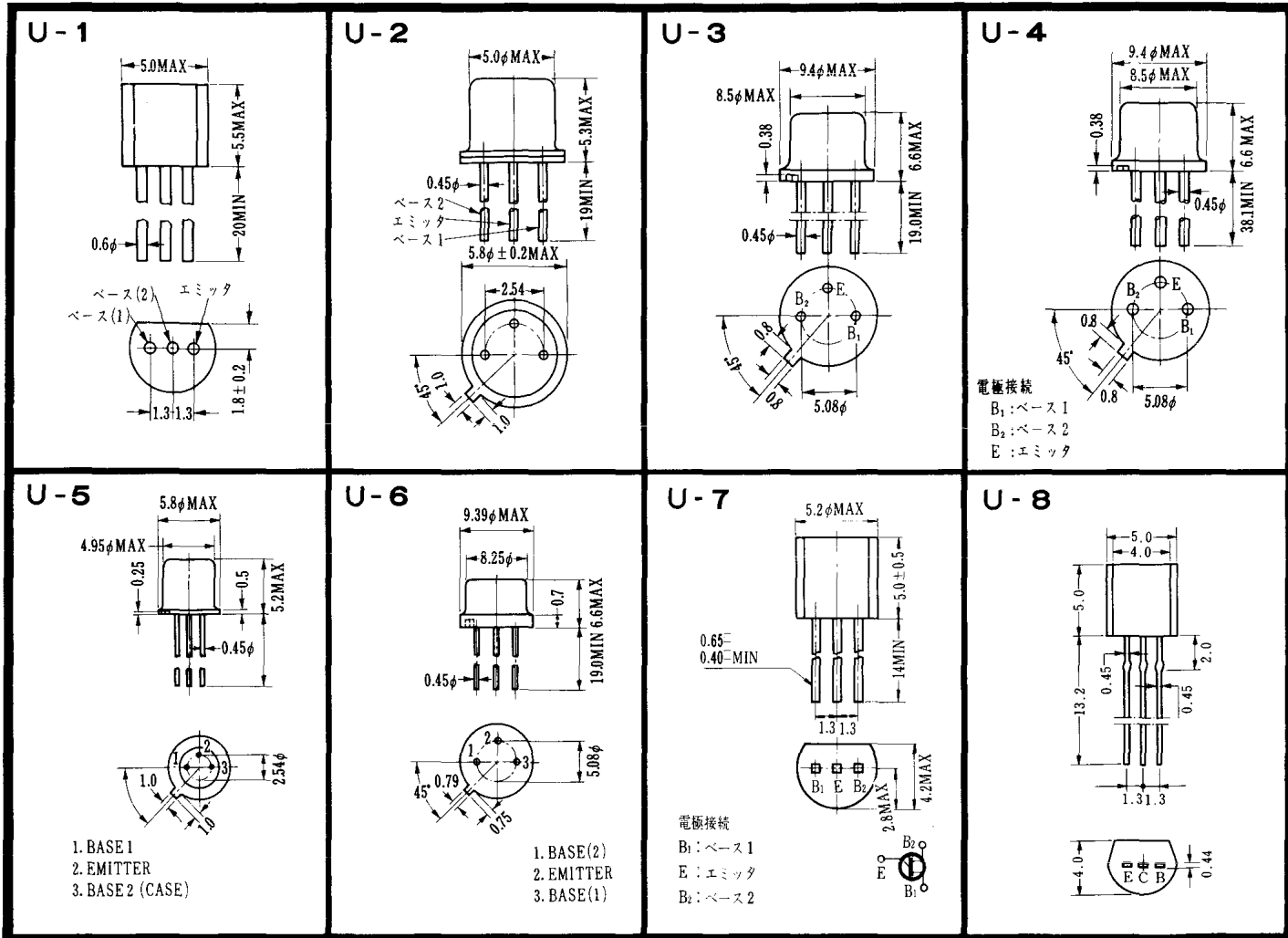
〈寸法図単位:mm〉

<http://store.iic.cc/>



〈寸法図単位：mm〉

<http://store.iic.cc/>



〈寸法図単位: mm〉

<http://store.iic.cc/>