

TOSHIBA Schottky Barrier Rectifier Schottky Barrier Type

# CMS04

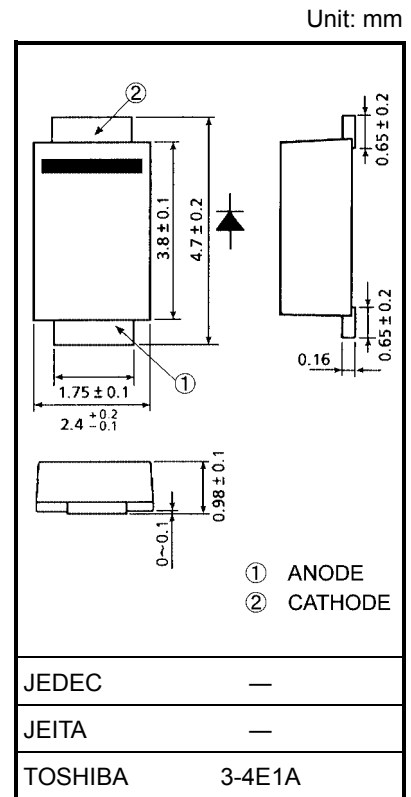
Switching Mode Power Supply Applications  
 Portable Equipment Battery Applications

- Forward voltage:  $V_{FM} = 0.37 \text{ V (max)}$
- Average forward current:  $I_F (AV) = 5.0 \text{ A}$
- Repetitive peak reverse voltage:  $V_{RRM} = 30 \text{ V}$
- Suitable for compact assembly due to small surface-mount package  
 "M-FLAT™" (Toshiba package name)

### Maximum Ratings (Ta = 25°C)

| Characteristics                                       | Symbol     | Rating     | Unit |
|---|------------|------------|------|
| Repetitive peak reverse voltage                       | $V_{RRM}$  | 30         | V    |
| Average forward current                               | $I_F (AV)$ | 5.0(Note)  | A    |
| Peak one cycle surge forward current (non-repetitive) | $I_{FSM}$  | 70 (50 Hz) | A    |
| Junction temperature                                  | $T_j$      | -40~125    | °C   |
| Storage temperature                                   | $T_{stg}$  | -40~150    | °C   |

Note:  $T_l = 36^\circ\text{C}$ : Rectangular waveform ( $\alpha = 180^\circ$ ),  $V_R = 15 \text{ V}$



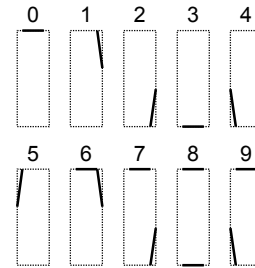
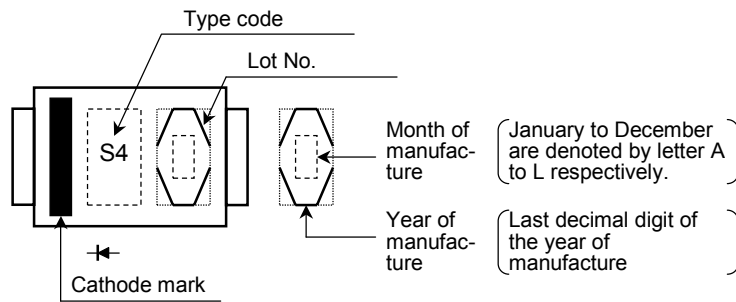
Weight: 0.023 g (typ.)

### Electrical Characteristics (Ta = 25°C)

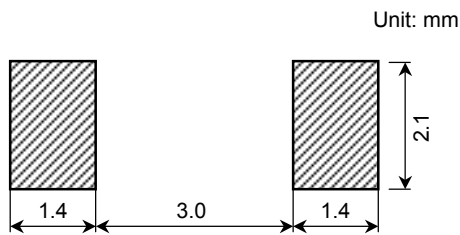
| Characteristics                 | Symbol         | Test Condition  | Min | Typ. | Max  | Unit |
|---------------------------------|----------------|---|-----|------|------|------|
| Peak forward voltage            | $V_{FM (1)}$   | $I_{FM} = 1 \text{ A}$  | —   | 0.27 | —    | V    |
|                                 | $V_{FM (2)}$   | $I_{FM} = 3 \text{ A}$  | —   | 0.31 | —    |      |
|                                 | $V_{FM (3)}$   | $I_{FM} = 5 \text{ A}$  | —   | 0.35 | 0.37 |      |
| Repetitive peak reverse current | $I_{RRM (1)}$  | $V_{RRM} = 5 \text{ V}$   | —   | 0.31 | —    | mA   |
|                                 | $I_{RRM (2)}$  | $V_{RRM} = 30 \text{ V}$  | —   | 3.3  | 8.0  |      |
| Junction capacitance            | $C_j$          | $V_R = 10 \text{ V}$ , $f = 1.0 \text{ MHz}$                        | —   | 330  | —    | pF   |
| Thermal resistance              | $R_{th (j-a)}$ | Device mounted on a ceramic board (soldering land: 2 mm × 2 mm)     | —   | —    | 60   | °C/W |
|                                 |                | Device mounted on a glass-epoxy board (soldering land: 6 mm × 6 mm) | —   | —    | 135  |      |
|                                 | $R_{th (j-l)}$ | —   | —   | —    | 16   |      |

**Marking**

**Following Indicates the Data of Manufacture**

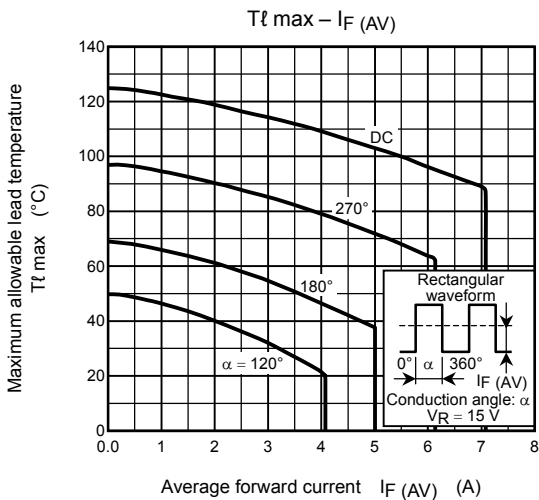
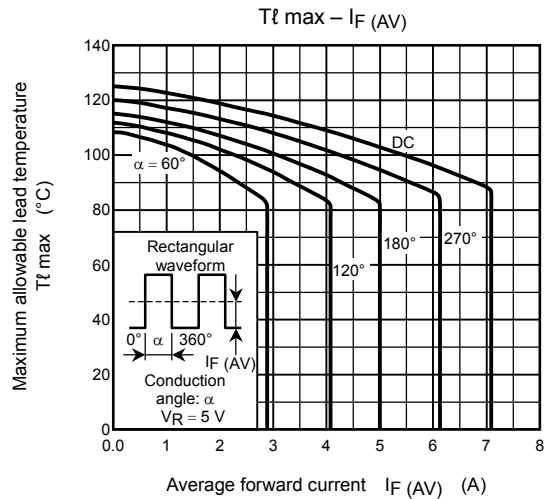
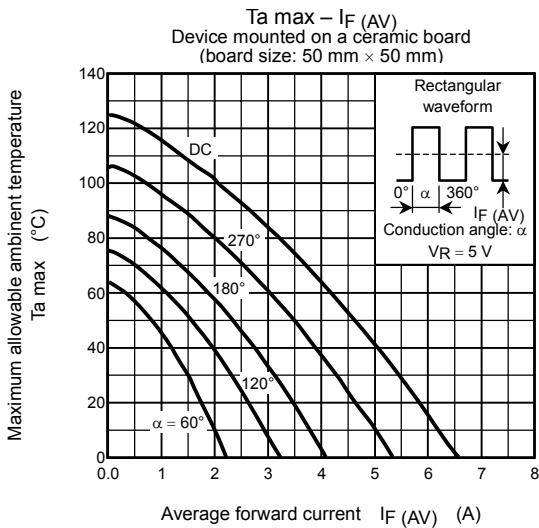
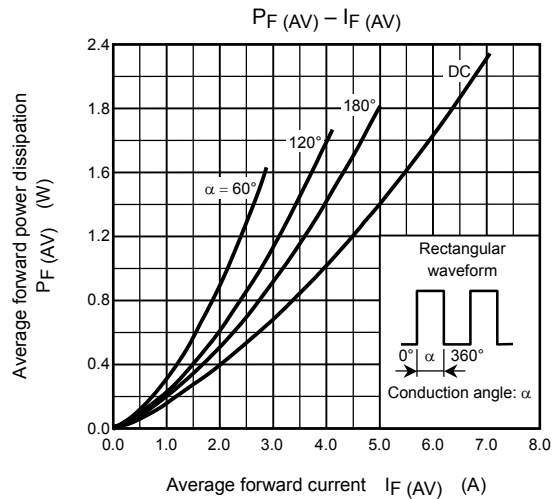
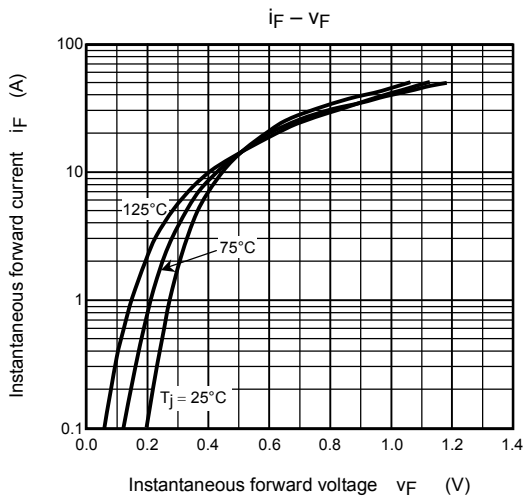


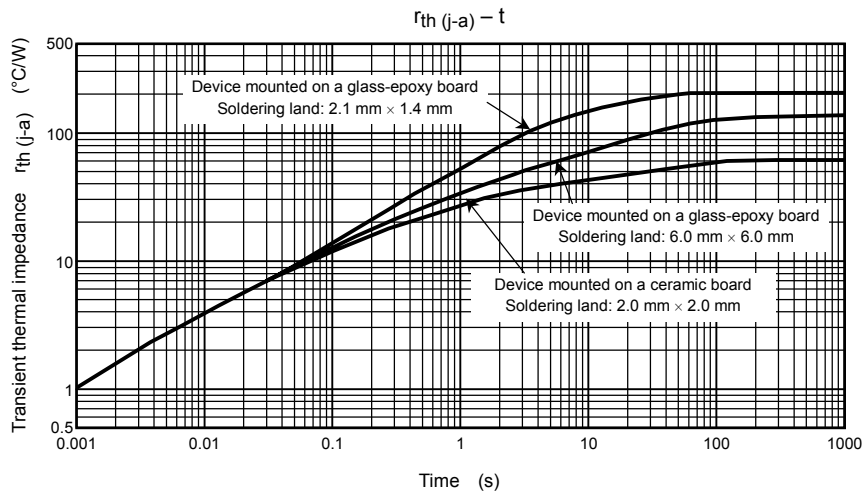
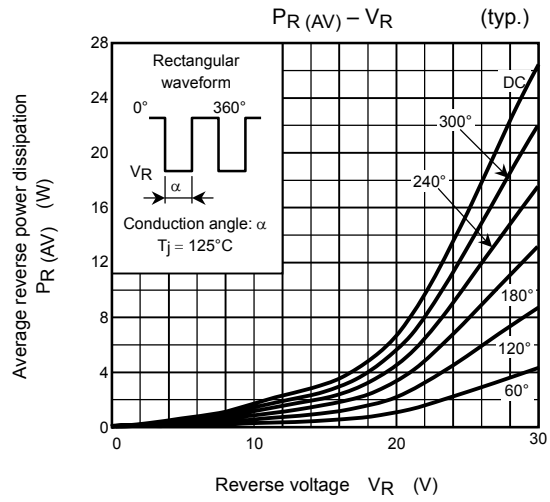
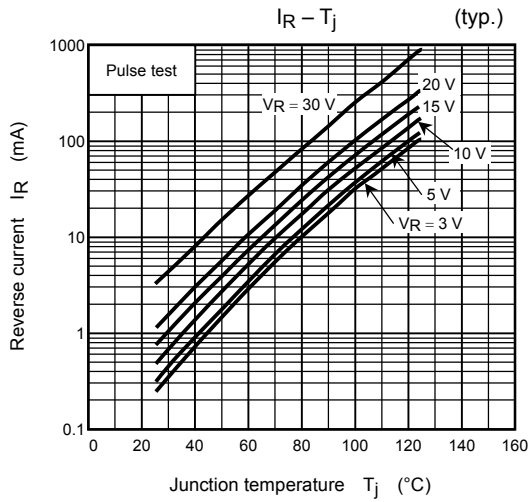
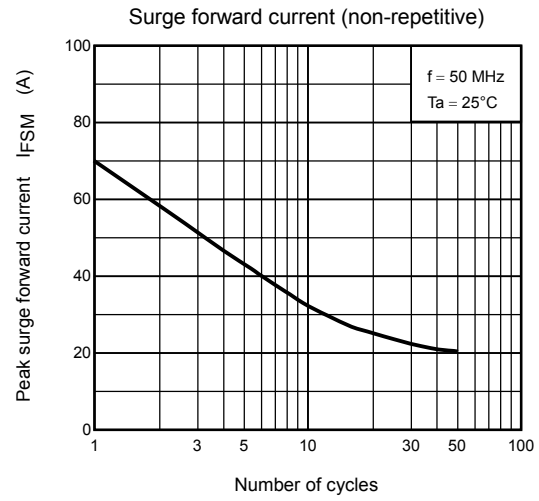
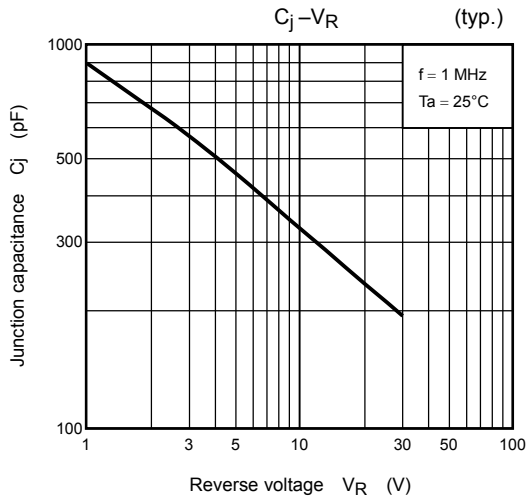
**Standard Soldering Pad**



**Handling Precaution**

Schottky barrier diodes are having large reverse current leakage characteristic compare to the other rectifier products. This current leakage and improper operating temperature or voltage may cause thermal runaway. Please take forward and reverse loss into consideration when you design.





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