TOSHIBA Schottky Barrier Rectifier Schottky Barrier Type

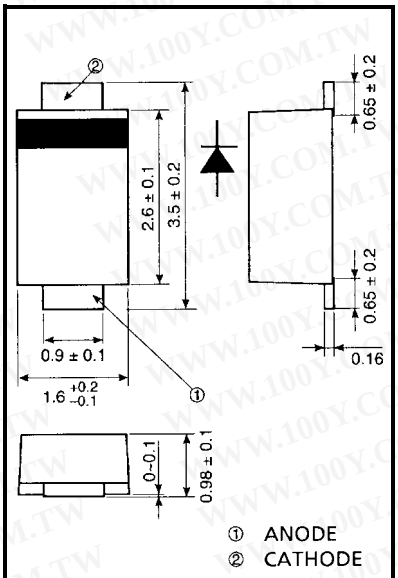
# CRS08



Switching Mode Power Supply Applications
Portable Equipment Battery Applications

- Forward voltage: $V_{FM}$ = 0.36 V (max)
- Average forward current: $I_{F\ (AV)}$ = 1.5 A
- Repetitive peak reverse voltage: $V_{RRM}$ = 30 V
- Suitable for compact assembly due to small surface-mount package "S−FLAT™" (Toshiba package name)

Unit: mm




| | |
|---|---|
| JEDEC | — |
| JEITA | — |
| TOSHIBA | 3-2A1A |

Weight: 0.013 g (typ.)

## Maximum Ratings (Ta = 25°C)

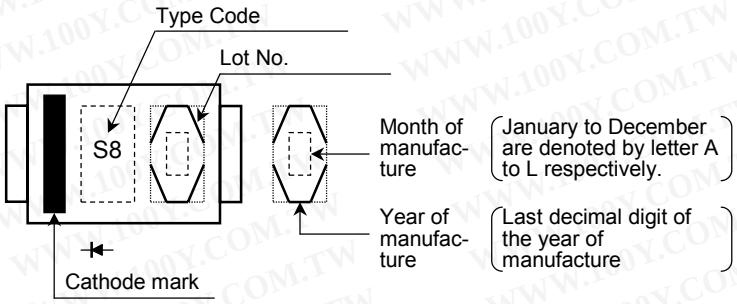
| Characteristics | Symbol | Rating | Unit |
|---|---|---|---|
| Repetitive peak reverse voltage | $V_{RRM}$ | 30 | V |
| Average forward current | $I_{F\ (AV)}$ | 1.5 (Note) | A |
| Peak one cycle surge forward current (non-repetitive) | $I_{FSM}$ | 30 (50 Hz) | A |
| Junction temperature | $T_j$ | −40~125 | °C |
| Storage temperature | $T_{stg}$ | −40~150 | °C |

Note: Tℓ = 86°C: Rectangular waveform (α = 180°C), VR = 15 V

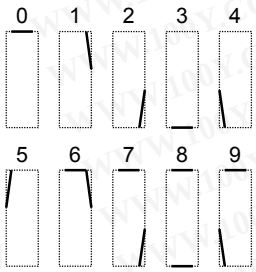
## Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|---|
| Peak forward voltage | $V_{FM\ (1)}$ | $I_{FM}$ = 0.1 A | — | 0.23 | — | V |
| | $V_{FM\ (2)}$ | $I_{FM}$ = 1.0 A | — | 0.32 | — | |
| | $V_{FM\ (3)}$ | $I_{FM}$ = 1.5 A | — | 0.345 | 0.36 | |
| Repetitive peak reverse current | $I_{RRM\ (1)}$ | $V_{RRM}$ = 5 V | — | 50 | — | μA |
| | $I_{RRM\ (2)}$ | $V_{RRM}$ = 30 V | — | — | 1.0 | mA |
| Junction capacitance | $C_j$ | $V_R$ = 10 V, f = 1.0 MHz | — | 90 | — | pF |
| Thermal resistance (junction to ambient) | $R_{th\ (j-a)}$ | Device mounted on a ceramic board (soldering land: 2 mm × 2 mm) | — | — | 70 | °C/W |
| | | Device mounted on a glass-epoxy board (soldering land: 6 mm × 6 mm) | — | — | 140 | |
| Thermal resistance (junction to lead) | $R_{th\ (j-\ell)}$ | — | — | — | 20 | °C/W |

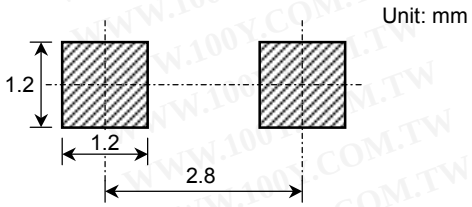
## Marking




## Following Indicates the Date of Manufacture




## Standard Soldering Pad

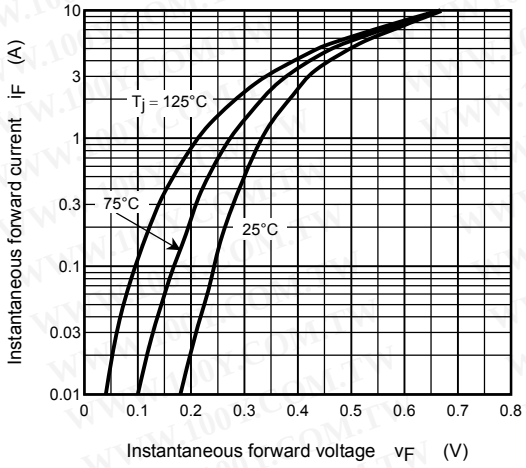




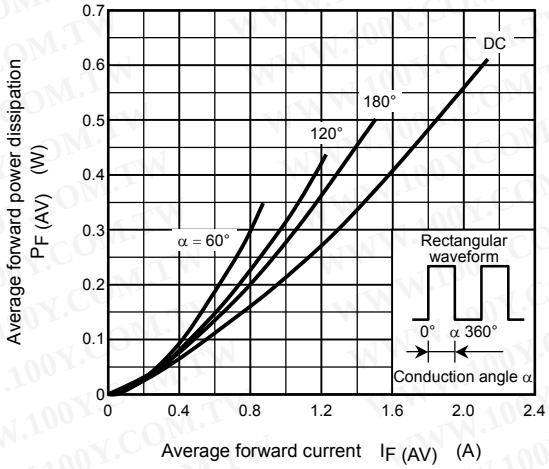

## Handling Precaution

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.

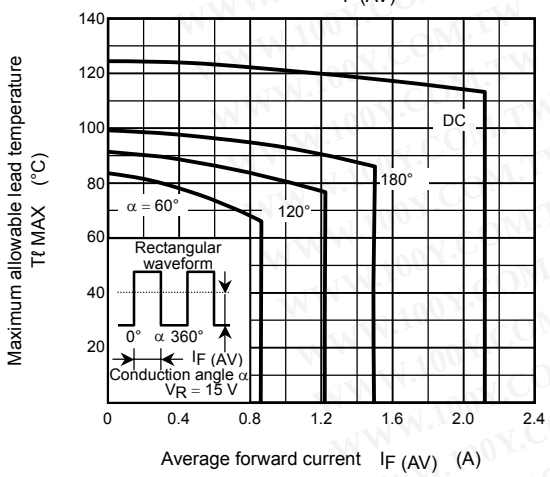
$i_F - v_F$



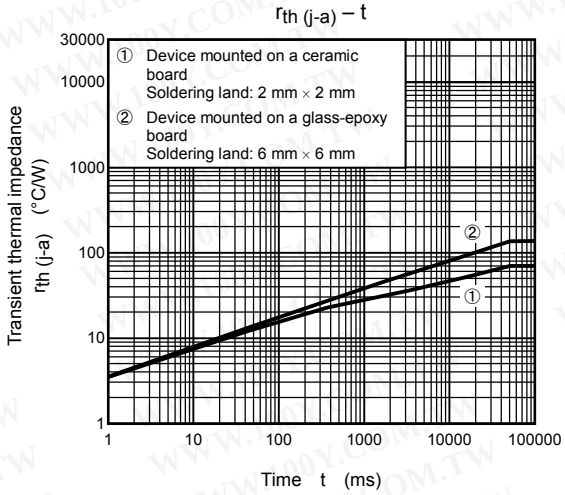

$P_{F\,(AV)} - I_{F\,(AV)}$



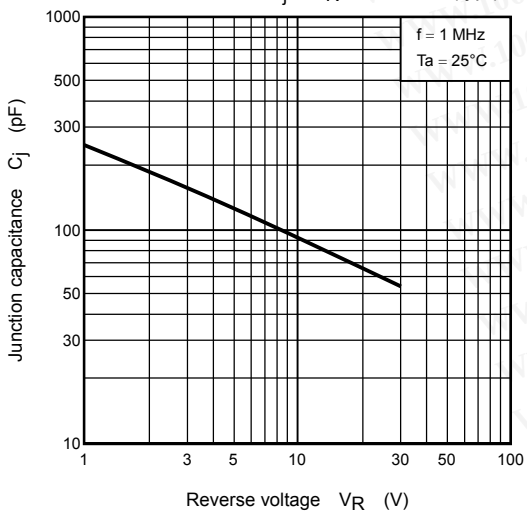

$T_\ell$ max – $I_{F\,(AV)}$



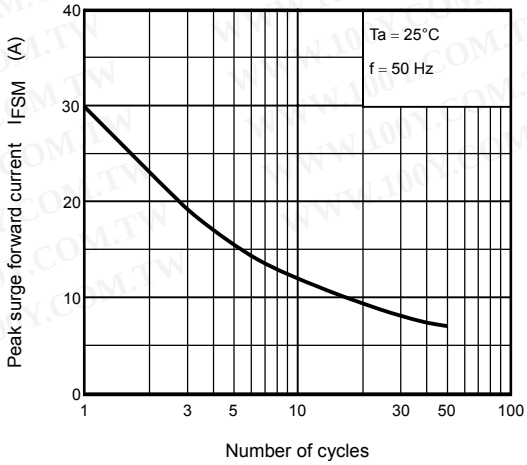

$r_{th\,(j\text{-}a)} - t$



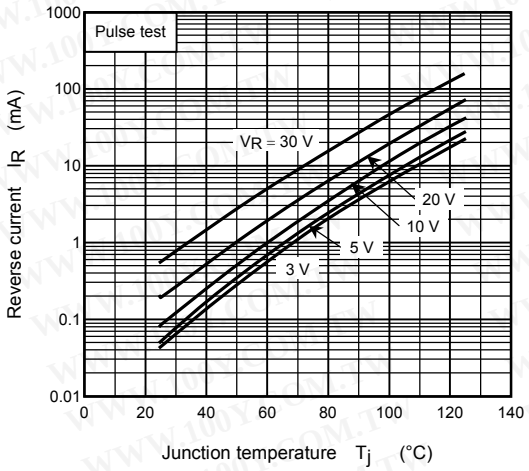

$C_j - V_R$ (typ.)



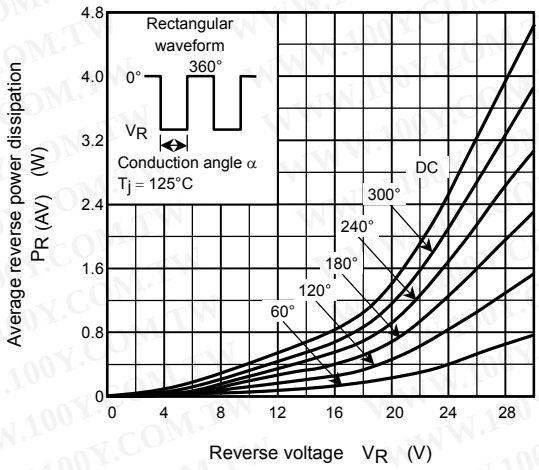

Surge forward current (non-repetitive)



$I_R - T_j$ (typ.)




$P_{R\,(AV)} - V_R$ (typ.)



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