

CLH07

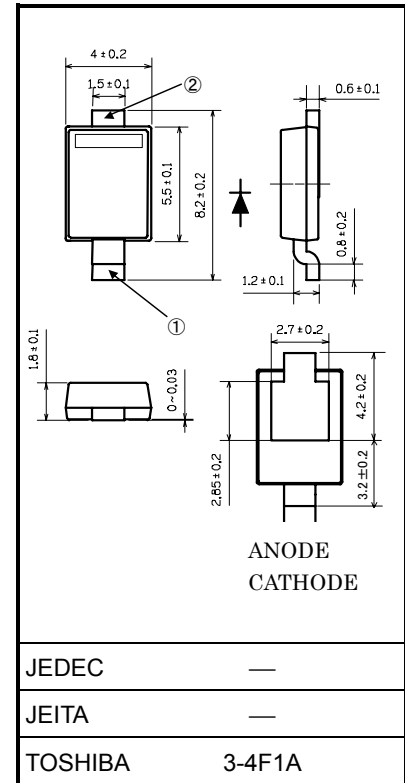
Switching Mode Power Supply Applications

Unit: mm

- Forward voltage: $V_{FM} = 1.8 \text{ V (Max.)}$
- Average forward current: $I_F (AV) = 5.0 \text{ A}$
- Repetitive peak reverse voltage: $V_{RRM} = 400 \text{ V}$
- Surface-mount package
“L-FLAT” (Toshiba package name)

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	400	V
Average forward current	$I_F (AV)$	5.0	A
Peak one cycle surge forward current (non-repetitive)	I_{FSM}	50 (50 Hz)	A
Junction temperature	T_j	$-40 \sim 150$	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-40 \sim 150$	$^\circ\text{C}$

Note: $T_l = 92^\circ\text{C}$ Rectangular waveform: ($\alpha = 180^\circ$)

Weight: 0.15 g (typ.)

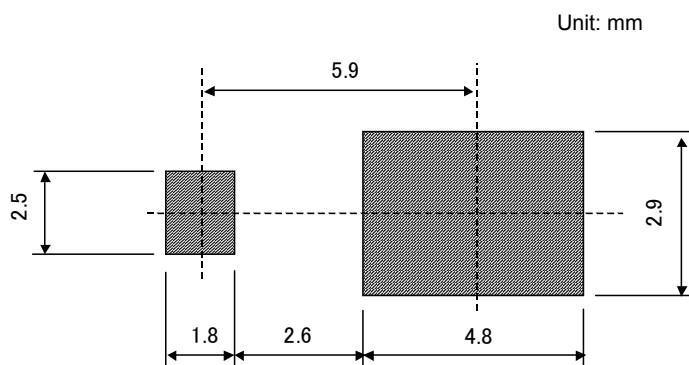
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Peak forward voltage	$V_{FM} (1)$	$I_{FM} = 1.0 \text{ A}$ (pulse test)	—	0.98	—	V
	$V_{FM} (2)$	$I_{FM} = 3.0 \text{ A}$ (pulse test)	—	1.23	—	
	$V_{FM} (3)$	$I_{FM} = 5.0 \text{ A}$ (pulse test)	—	1.40	1.80	
Repetitive peak reverse current	I_{RRM}	$V_{RRM} = 400 \text{ V}$ (pulse test)	—	—	10	μA
Reverse recovery time	t_{rr}	$I_F = 2 \text{ A}$, $di/dt = -50 \text{ A}/\mu\text{s}$	—	—	35	ns
Forward recovery time	t_{fr}	$I_F = 1.0 \text{ A}$	—	—	100	ns
Thermal resistance (junction to ambient)	$R_{th (j-a)}$	Device mounted on a glass-epoxy board (board size: 50 mm x 50 mm) (board thickness: 1.6 t) (soldering land) Cathode: 5.7 mm x 6.2 mm, Anode :4.5 mm x 3.4 mm	—	—	100	$^\circ\text{C/W}$
Thermal resistance (junction to ambient)	$R_{th (j-l)}$	—	—	—	5	$^\circ\text{C/W}$

Marking

Abbreviation Code	Part No.
H07	CLH07

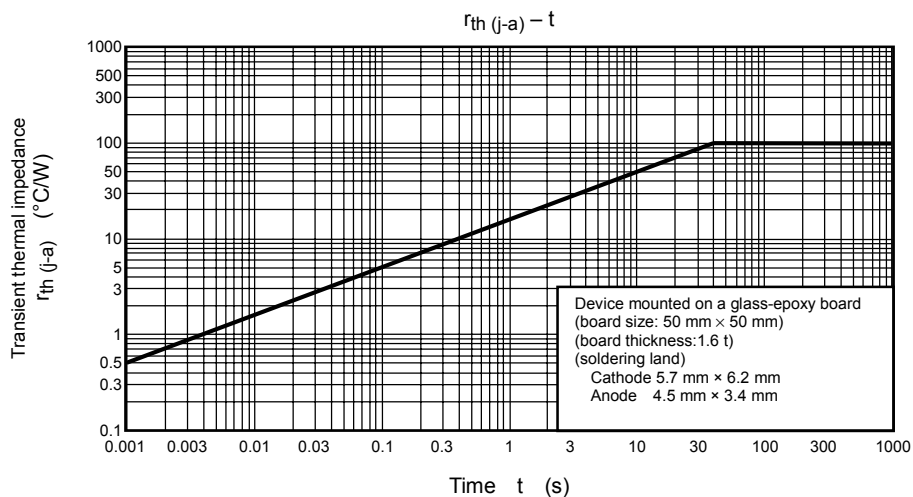
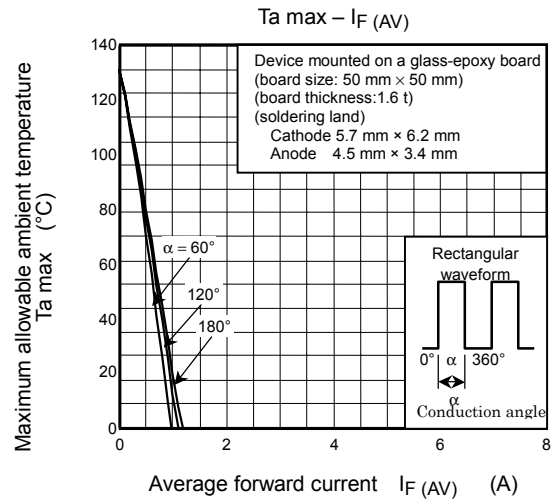
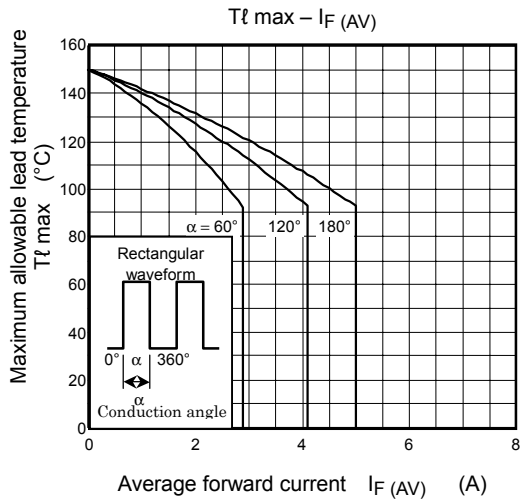
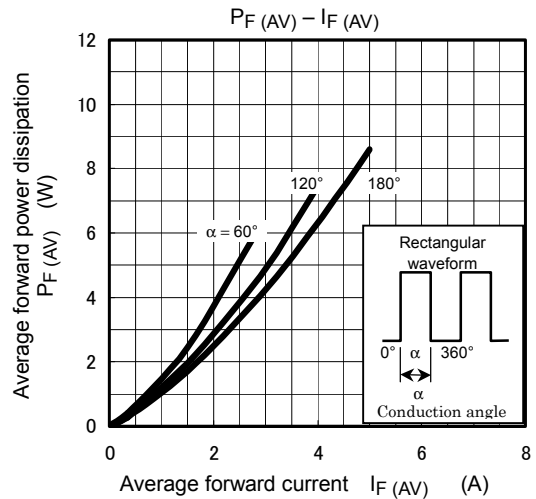
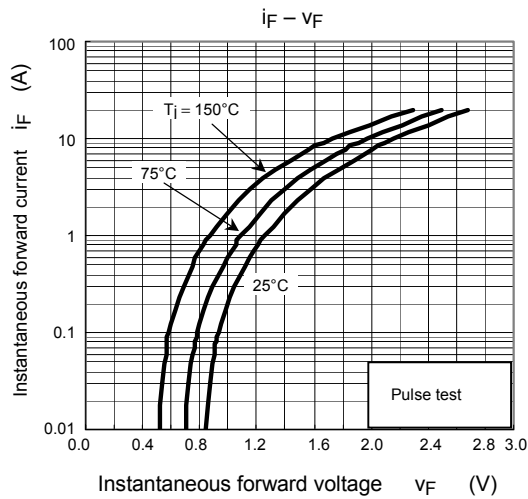
Standard Soldering Pad

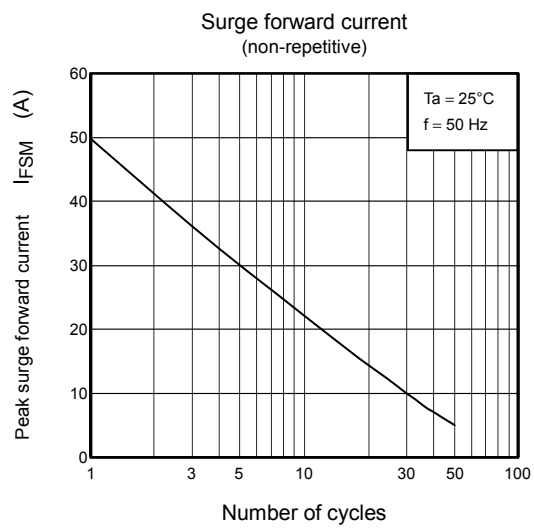
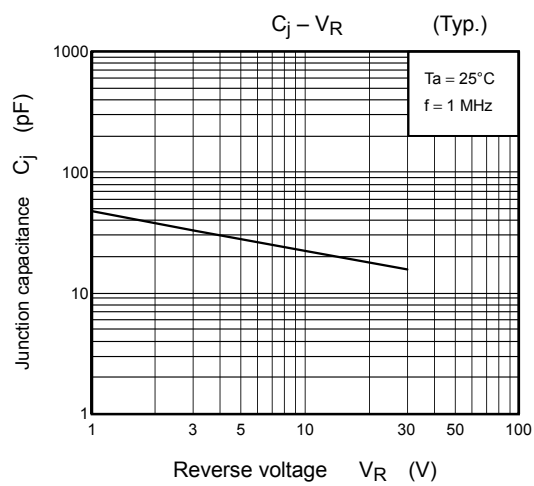


Handling Precautions

- The maximum rating denotes the absolute maximum ratings, which are rated values that must not be exceeded during operation, even for an instant. The following are the general derating methods that we recommend for designing a circuit incorporating this device

 - V_{RRM}:** Use this rating with reference to (1) above. The V_{RRM} has a temperature coefficient of $0.1\%/^{\circ}\text{C}$. Take this temperature coefficient into account when designing a device at low temperature.
 - I_{F(AV)}:** We recommend that the worst case current be no greater than 80% of the maximum rating of $I_{F(AV)}$ and that T_j be below 120°C . When using this device, take the margin into consideration by using an allowable $T_a(\text{max}) \cdot I_{F(AV)}$ curve.
 - I_{FSM}:** This rating specifies the non-repetitive peak current. This applies to abnormal operation only. When using a device, design a circuit board and a soldering land size to match the appropriate thermal resistance value.
 - I_{FSM}:** This rating specifies the non-repetitive peak current. This applies to abnormal operation only. When using the device, design the circuit board and the soldering land size to match the appropriate thermal resistance value.
 - T_j:** Derate this rating when using the device to ensure high reliability. We recommend that the device be used at a T_j of below 120°C .
- The thermal resistance between junction and ambient varies depending on the mounting condition of the See. When using the device, design the circuit board and the soldering land size to match the appropriate thermal resistance value.
- See the Rectifiers databook for further information.





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