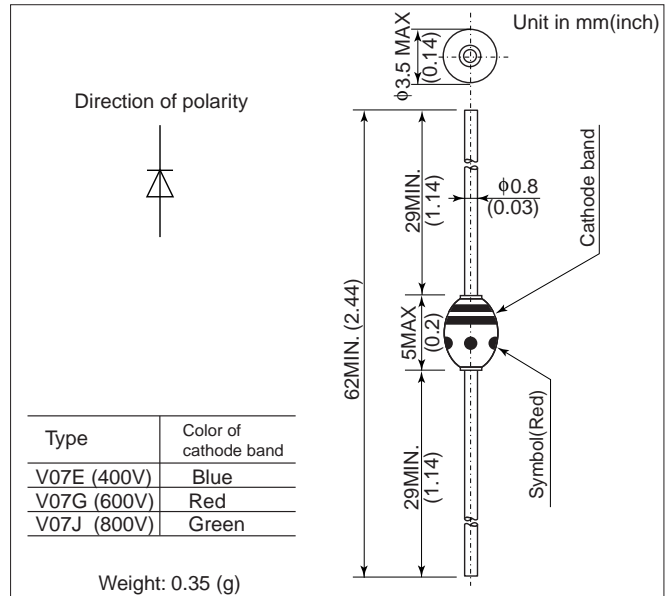


V07

FEATURES

- Transient surge voltage protection.
- Diffused-junction. Glass passivated and encapsulated.

OUTLINE DRAWING



ABSOLUTE MAXIMUM RATINGS

Items	Type	V07E	V07G	V07J	
Repetitive Peak Reverse Voltage	V_{RRM}	V	400	600	800
Peak Reverse Power	P_{RM}	W	40($T_j = 165^\circ\text{C}$, Pulse duration 1ms Non-repetitive)		
Average Forward Current	$I_{F(AV)}$	A	1.3 (Single-phase half sine wave 180° conduction) $T_L = 90^\circ\text{C}$, Lead length = 10mm		
Surge(Non-Repetitive) Forward Current	I_{FSM}	A	40(Without PIV, 10ms conduction, $T_j = 175^\circ\text{C}$ start)		
I^2t Limit Value	I^2t	A^2s	6.4(Time = 2 ~ 10ms, I = RMS value)		
Operating Junction Temperature	T_j	$^\circ\text{C}$	-65 ~ +175		
Storage Temperature	T_{stg}	$^\circ\text{C}$	-65 ~ +200		

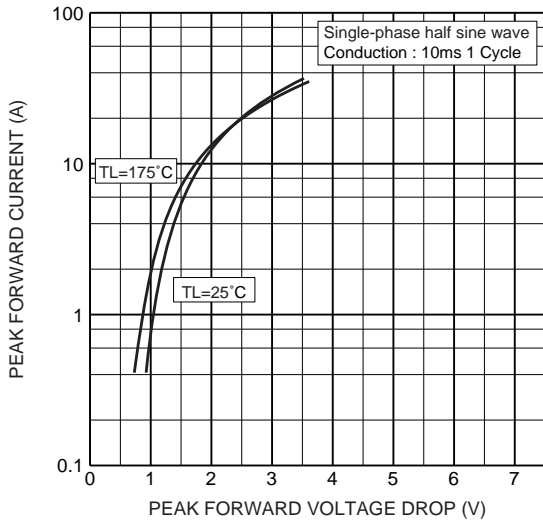
Notes (1) Lead mounting : Lead temperature 300°C max. to 3.2mm from body for 5sec. max..

(2) Mechanical strength : Bending $90^\circ \times 2$ cycles or $180^\circ \times 1$ cycle, Tensile 2kg, Twist $90^\circ \times 1$ cycle.

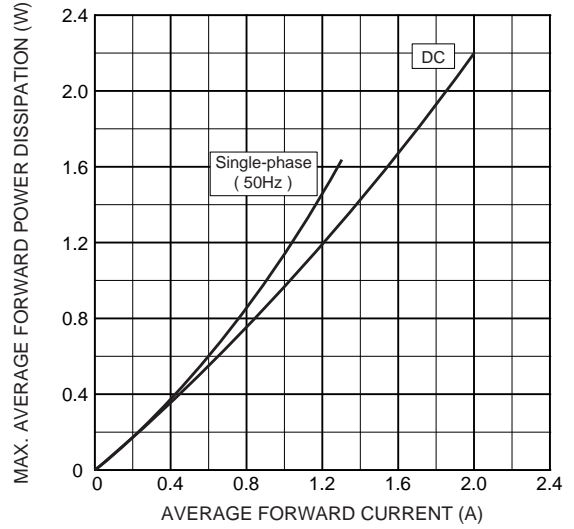
CHARACTERISTICS($T_L = 25^\circ\text{C}$)

Items	Symbols	Units	Min.	Typ.	Max.	Test Conditions
Peak Reverse Current	I_{RRM}	μA	—	0.6	10	All class, Rated V_{RRM}
Peak Forward Voltage	V_{FM}	V	—	—	1.1	$I_{FM} = 1.3A_p$, Single-phase half sine wave 1 cycle
Reverse Recovery Time	t_{rr}	μs	—	3.0	—	$I_F = 2\text{mA}$, $V_R = -15\text{V}$
Avalanche Voltage	V_{AVL}	V	V_{RRM}	—	1600	$I_{RM} = 1.0\text{mA}$, Single-phase half sine wave 1 pps, Time $\leq 5\text{s}$
Steady State Thermal Impedance	$R_{th(j-a)}$	$^\circ\text{C/W}$	—	—	80	Lead length = 10 mm
	$R_{th(j-l)}$				50	

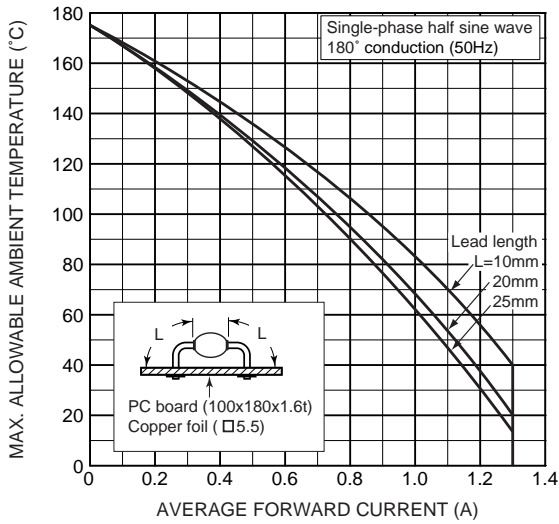
Forward characteristics



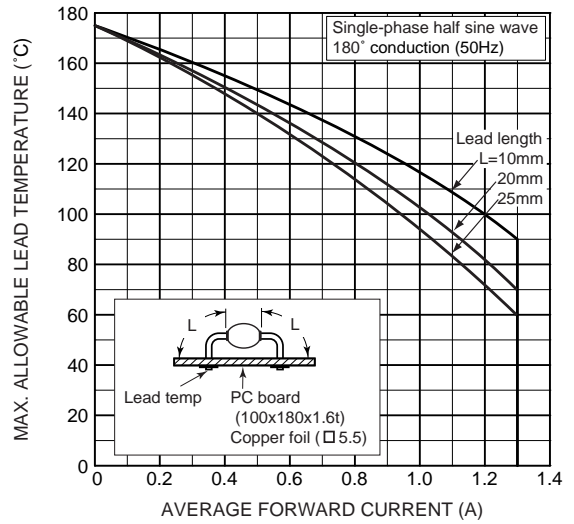
Max. average forward power dissipation (Resistive or inductive load)



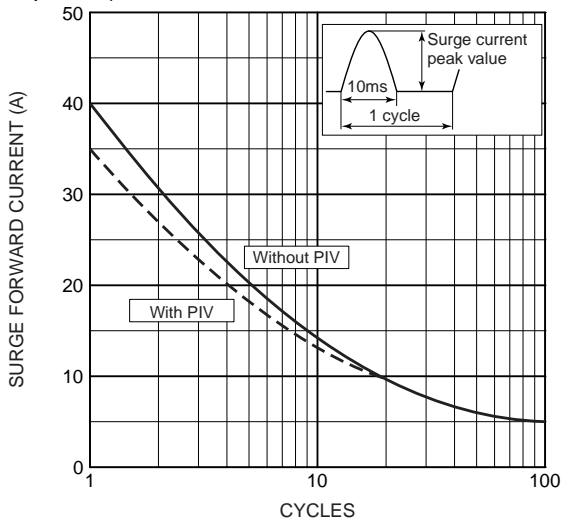
Max. allowable ambient temperature (Resistive or inductive load)



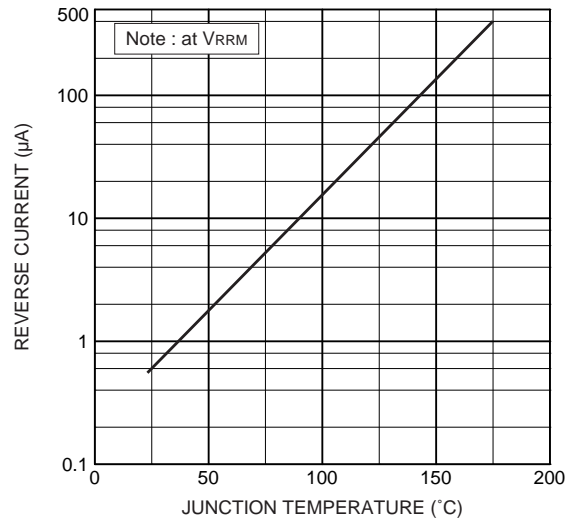
Max. allowable lead temperature (Resistive or inductive load)



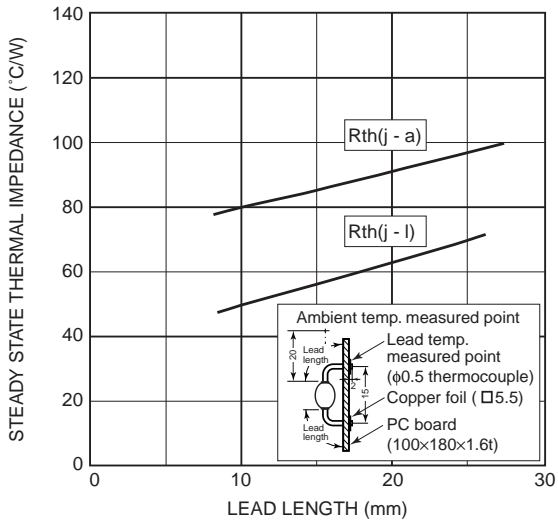
Surge forward current characteristics (Non-repetitive)



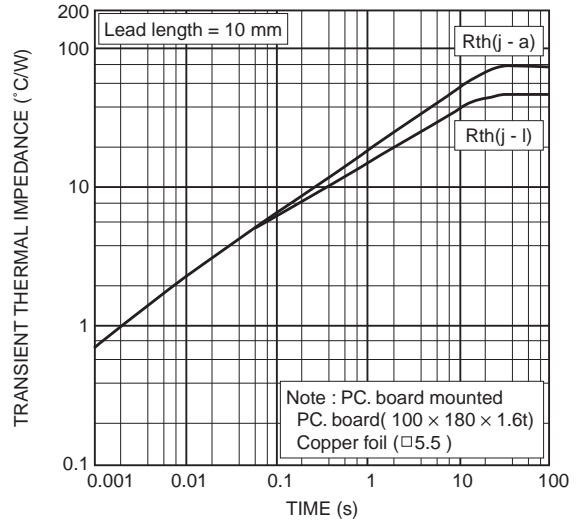
Typ. Reverse current vs. junction temperature



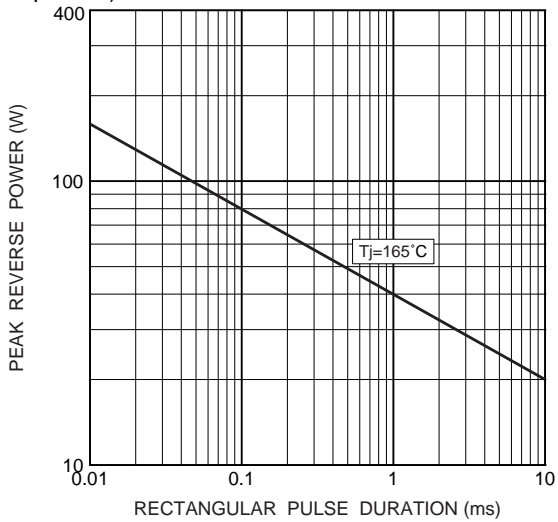
Steady-state thermal impedance



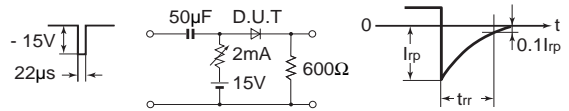
Transient thermal impedance



Typical reverse power characteristics (Non-repetitive)



Reverse recovery time (trr) test circuit



Precautions for Safe Use and Notices

If semiconductor devices are handled in inappropriate manner, failures may result.
For this reason, be sure to read "Precaution for Use" before use.



This mark indicates an item about which caution is required.



CAUTION

This mark indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and damage to property.



CAUTION

- (1) Regardless of changes in external conditions during use "absolute maximum ratings" should never be exceed in designing electronic circuits that employ semiconductors. In the case of pulse use, furthermore, "safe operating area(SOA)" precautions should be observed.
- (2) Semiconductor devices may experience failures due to accident or unexpected surge voltages. Accordingly, adopt safe design features, such as redundancy or prevention of erroneous action, to avoid extensive damage in the event of a failure.
- (3) In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, life-support-related medical equipment, fuel control equipment and various kinds of safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of user's fail-safe precautions or other arrangement. Or consult Hitachi's sales department staff.

(If a semiconductor device fails, there may be cases in which the semiconductor device, wiring or wiring pattern will emit smoke or cause a fire or in which the semiconductor device will burst)

NOTICES

1. This Datasheet contains the specifications, characteristics(in figures and tables), dimensions and handling notes concerning power semiconductor products (hereinafter called "products") to aid in the selection of suitable products.
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