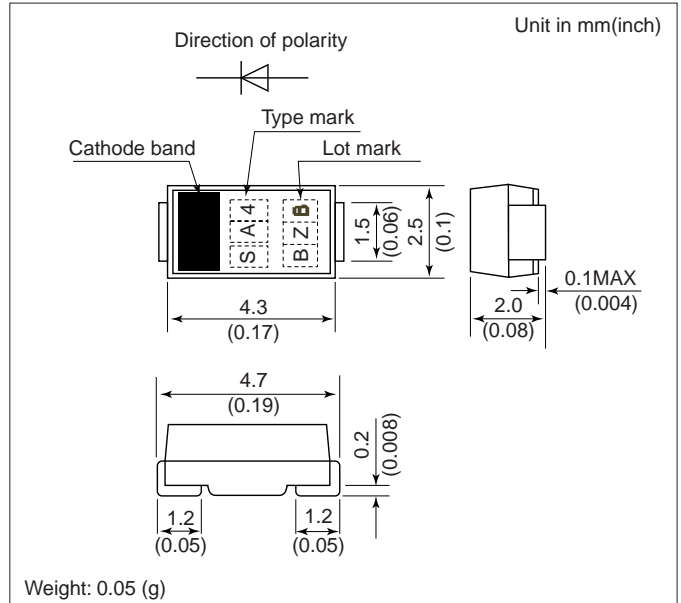


# DSM1MA

## FEATURES

- For general purpose
- High heat-resistant due to glass passivation.

## OUTLINE DRAWING



## ABSOLUTE MAXIMUM RATINGS

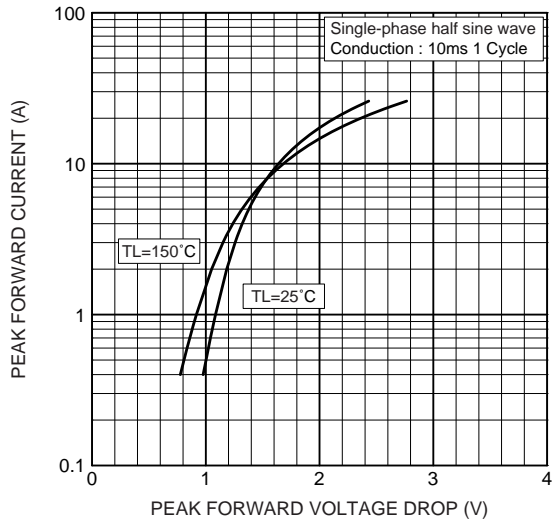
Items	Type		DSM1MA1	DSM1MA2	DSM1MA4
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	100	200	400
Average Forward Current	$I_{F(AV)}$	A	1.0 (Single-phase half sine wave 180° conduction $T_L = 127^\circ\text{C}$ )		
Surge(Non-Repetitive) Forward Current	$I_{FSM}$	A	25( Without PIV, 10ms conduction, $T_j = 40^\circ\text{C}$ start )		
$I^2t$ Limit Value	$I^2t$	$\text{A}^2\text{s}$	2.5( Time = 2 ~ 10ms, I = RMS value )		
Operating Junction Temperature	$T_j$	$^\circ\text{C}$	-40 ~ +150		
Storage Temperature	$T_{stg}$	$^\circ\text{C}$	-40 ~ +150		

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

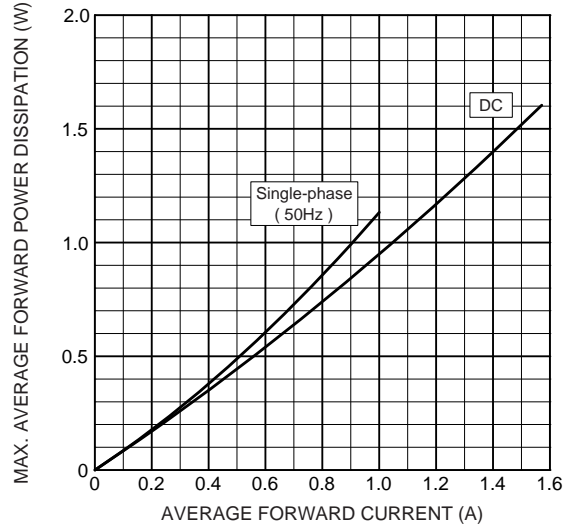
Items	Symbols	Units	Min.	Typ.	Max.	Test Conditions
Peak Reverse Current	$I_{RRM}$	$\mu\text{A}$	-	-	20	DSM1MA1,2
					10	DSM1MA4
Peak Forward Voltage	$V_{FM}$	V	-	-	1.1	$I_{FM}=1.0\text{A}$ , Single-phase half sine wave 1 cycle
Steady State Thermal Impedance	$R_{th(j-a)}$	$^\circ\text{C/W}$	-	-	120	On glass-epoxi substrate ( $\square$ 50mm )
	$R_{th(j-l)}$				20	Soldering land ( $\square$ 6mm )

# DSM1MA

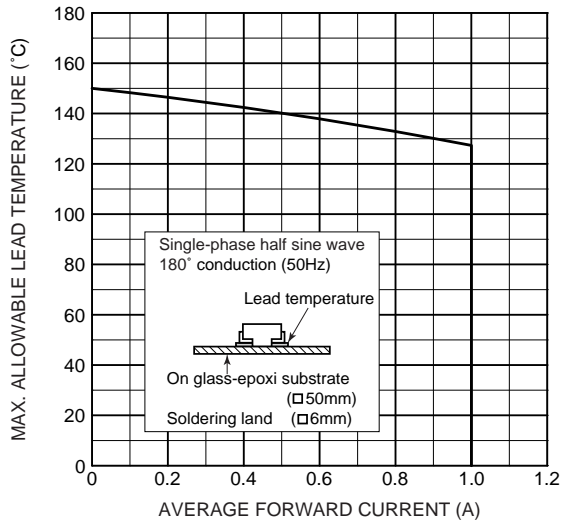
Forward characteristics



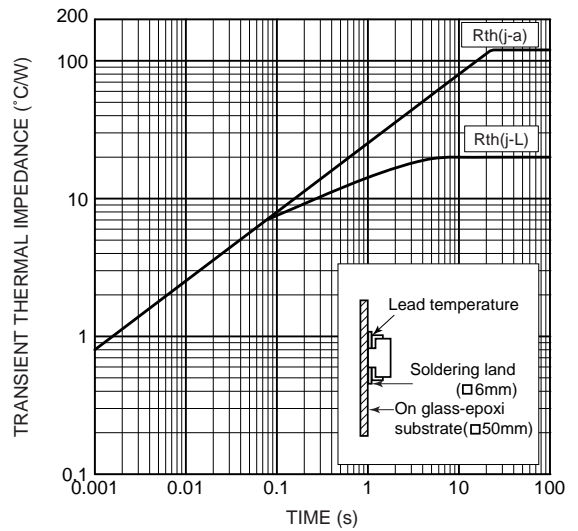
Max. average forward power dissipation (Resistive or inductive load)



Max. allowable lead temperature (Resistive or inductive load)



Transient thermal impedance



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## Precautions for Safe Use and Notices

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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)

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## NOTICES

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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.
2. The specifications and dimensions, etc. stated in this Datasheet are subject to change without prior notice to improve products characteristics. Before ordering, purchasers are advised to contact Hitachi's sales department for the latest version of this Datasheet and specifications.
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Refer to the following website for the latest information. Consult Hitachi's sales department staff if you have any questions.

<http://www.hitachi-power-semiconductor-device.co.jp/en/>