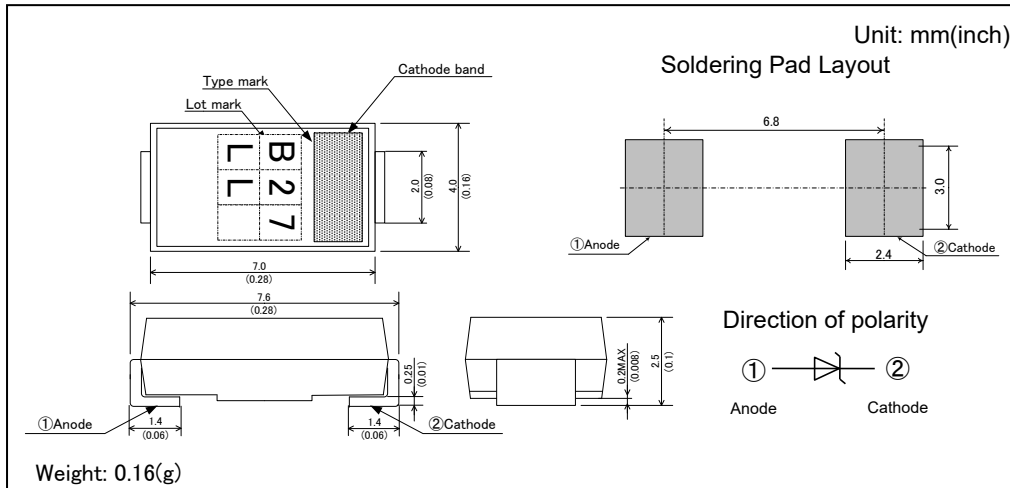


DAM3MB

FEATURES

- High transient reverse power capability suitable
- Available for automotive use
- AEC-Q101 qualified
- RoHS compliant
- Molding compound equivalent to UL 94 V-0
- MSL equivalent to level 1
- Type of packaging: 800pcs/tape and reel

OUTLINE DRAWING



ABSOLUTE MAXIMUM RATINGS

Items	Symbols	Units	Ratings
Non-Repetitive Peak Reverse One-Cycle Dissipation	P_{RSM}	W	1200 (10/1000 μ s waveform, $T_j=25^\circ\text{C}$ start)
			1800 (Rectangular pulse $t=0.1\text{ms}$ $T_j=25^\circ\text{C}$ start)
Surge(Non-Repetitive) Forward Current	I_{FSM}	A	150 (8.3ms single half sine-wave, $T_j=40^\circ\text{C}$ start)
Operating Junction Temperature	T_j	$^\circ\text{C}$	-65 ~ +185
Storage Temperature	T_{stg}	$^\circ\text{C}$	-65 ~ +185
Stand-off Voltage	V_{RM}	V	Refer to characteristics column

CHARACTERISTICS $V_z=12\sim 51\text{V}(T_L=25^\circ\text{C})$

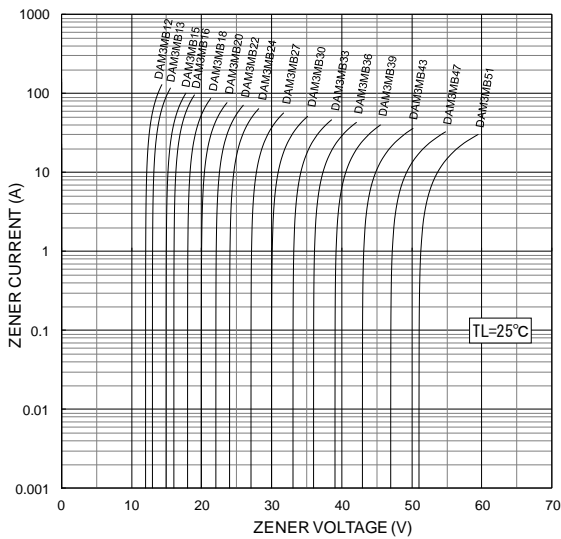
Type	Stand-off Voltage V_{RM} (V)	Characteristics				Maximum Peak Pulse Surge Current I_{PPM} (A)	Maximum Clamping Voltage at I_{PPM} V_C (V)
		Zener Voltage V_z (V)		Test Current I_z (mA)	Maximum Reverse Leakage at V_{RM} I_{RRM} (μA)		
		Minimum	Maximum				
DAM3MB12	9.7	11.4	12.7	1	5	69.4	17.3
DAM3MB13	10.5	12.4	14.1	1	5	63.2	19.0
DAM3MB15	12.1	13.5	15.6	1	1	54.5	22.0
DAM3MB16	12.9	15.3	17.1	1	1	51.1	23.5
DAM3MB18	14.5	16.8	19.1	1	1	45.3	26.5
DAM3MB20	16.2	18.8	21.2	1	1	41.2	29.1
DAM3MB22	17.8	20.8	23.3	1	1	37.6	31.9
DAM3MB24	19.4	22.7	25.6	1	1	34.6	34.7
DAM3MB27	21.8	25.1	28.9	1	1	30.7	39.1
DAM3MB30	24.3	28.0	32.0	1	1	27.6	43.5
DAM3MB33	26.8	31.0	35.0	1	1	25.2	47.7
DAM3MB36	29.1	33.4	38.6	1	1	23.1	52.0
DAM3MB39	31.6	36.1	41.9	1	1	21.3	56.4
DAM3MB43	34.8	39.8	46.2	1	1	19.4	61.9
DAM3MB47	38.0	43.3	50.7	1	1	17.7	67.7
DAM3MB51	41.3	46.9	55.1	1	1	16.2	74.0

DAM3MB

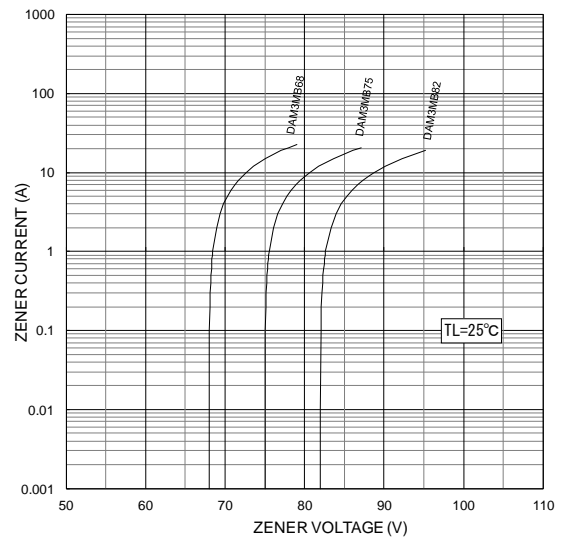
CHARACTERISTICS Vz=68~82V(TL=25°C)

Type	Stand-off Voltage V _{RM} (V)	Characteristics				Maximum Peak Pulse Surge Current I _{PPM} (A)	Maximum Clamping Voltage at I _{PPM} V _C (V)
		Zener Voltage Vz (V)		Test Current I _Z (mA)	Maximum Reverse Leakage at V _{RM} I _{RRM} (μA)		
		Minimum	Maximum				
DAM3MB68	55.1	61.2	74.8	1	1	12.2	98.0
DAM3MB75	60.7	67.5	82.5	1	1	11.2	107.6
DAM3MB82	66.4	73.8	90.2	1	1	10.2	117.9

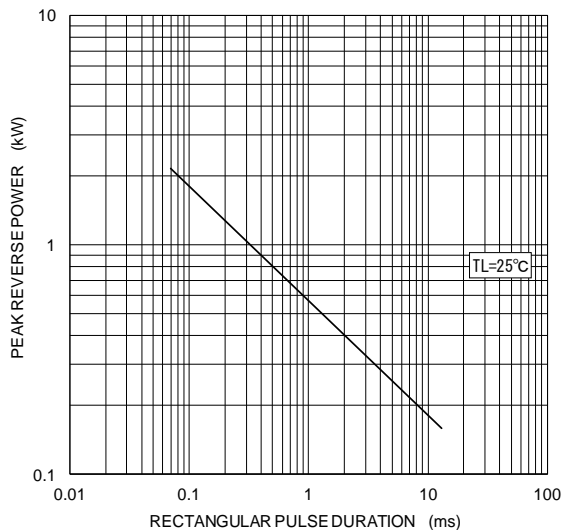
Typical zener characteristics (Vz : 12 – 51V)



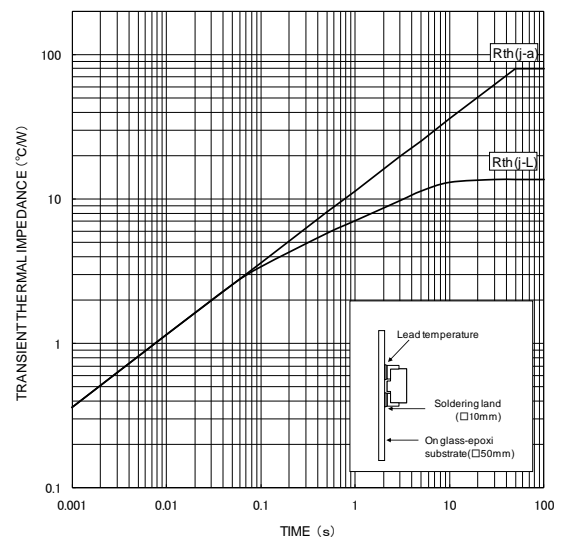
Typical zener characteristics (Vz : 68 – 82V)



Typical reverse power characteristics (Rectangular pulse non-repetitive)

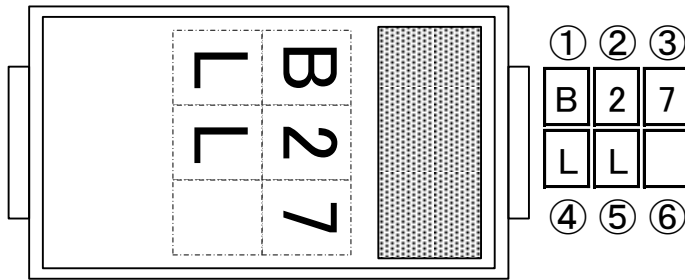


Transient thermal impedance



DAM3MB

Part number description



①	Type mark	"B" : DAM"B" series
②	Zener voltage	Zener voltage (two digits)
③		e.g. 27 → 27V
④	Year	Year of manufacture (the last digit)
⑤	Month	Month of manufacture
⑥	Blank	Here is blank.

	Mark	A	B	C	D	E	K	L	M	N	X	Y	Z
④	Year of manufacture (the last digit)	1	2	3	4	5	6	7	8	9	0	-	-
⑤	Month of manufacture	1	2	3	4	5	6	7	8	9	10	11	12

e.g. B27 Type: DAM"B" series
 LL Zener voltage: 27V
 Manufacturing date: Jul. 2017

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 exceeded 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.
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.
3. In no event shall Hitachi be liable for any damage that may result from an accident or any other cause during operation of the user's units according to this Datasheet. Hitachi assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in this Datasheet.
4. In no event shall Hitachi be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
5. No license is granted by this Datasheet under any patents or other rights of any third party or Hitachi Power Semiconductor Device, Ltd.
6. This Datasheet may not be reproduced or duplicated, in any form, in whole or in part, without the expressed written permission of Hitachi Power Semiconductor Device, Ltd.
7. The products (technologies) described in this Datasheet are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.

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/>

【Usage】

- (1) HPSD warrants that the HPSD products have the specified performance according to the respective specifications at the time of its sale. Testing and other quality control techniques of the HPSD products by HPSD are utilized to the extent HPSD needs to meet the specifications described in this document. Not every device of the HPSD products is specifically tested on all parameters, except those mandated by relevant laws and/or regulations.
- (2) Following any claim regarding the failure of a product to meet the performance described in this document made within one month of product delivery, all the products in relevant lot(s) shall be re-tested and re-delivered. The HPSD products delivered more than one month before such a claim shall not be counted for such response.
- (3) HPSD assumes no obligation nor makes any promise of compensation for any fault which should be found in a customer's goods incorporating the products in the market. If a product failure occurs for reasons obviously attributable to HPSD and a claim is made within six months of product delivery, HPSD shall offer free replacement or payment of compensation. The maximum compensation shall be the amount paid for the products, and HPSD shall not assume responsibility for any other compensation.
- (4) HPSD reserves the right to make changes in this document and to discontinue mass production of the relevant products without notice. Customers are advised to confirm specification of the product of inquiry before purchasing of the products that the customer desired. Customers are further advised to confirm before purchasing of such above products that the product of inquiry is the latest version and that the relevant product is in mass production status if the purchasing of the products by the customer is suspended for one year or more.
- (5) When you dispose of HPSD products and/or packing materials, comply with the laws and regulations of each country and/or local government. Conduct careful preliminary studies about environmental laws applying to your products such as RoHS, REACH. HPSD shall not assume responsibility for compensation due to contravention of laws and/or regulations.
- (6) HPSD shall not be held liable in any way for damages and infringement of patent rights, copyright or other intellectual property rights arising from or related to the use of the information, products, and circuits in this document.
- (7) No license is granted by this document of any patents, copyright or other intellectual property rights of any third party or of HPSD.
- (8) This document may not be reprinted, reproduced or duplicated, in any form, in whole or in part without the express written permission of HPSD.
- (9) You shall not use the HPSD products (technologies) described in this document and any other products (technologies) manufactured or developed by using them (hereinafter called "END Products") or supply the HPSD products (technologies) and END Products for the purpose of disturbing international peace and safety, including (i) the design, development, production, stockpiling or any use of weapons of mass destruction such as nuclear, chemical or biological weapons or missiles, (ii) the other military activities, or (iii) any use supporting these activities. You shall not sell, export, dispose of, license, rent, transfer, disclose or otherwise provide the HPSD products (technologies) and END Products to any third party whether directly or indirectly with knowledge or reason to know that the third party or any other party will engage in the activities described above.
When exporting, re-export transshipping or otherwise transferring the HPSD products (technologies) and END Products, all necessary procedures are to be taken in accordance with Foreign Exchange and Foreign Trade Act (Foreign Exchange Act) of Japan, Export Administration Regulations (EAR) of US, and any other applicable export control laws and regulations promulgated and administered by the governments of the countries asserting jurisdictions over the parties or transaction.