

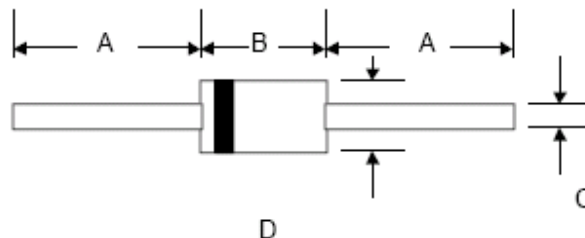


Technical Data
Data Sheet N0449, Rev. -

Green Products

Features

- Glass Passivated Die Construction
- High current capability
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Fast Recovery Time
- High Surge Current Capability
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



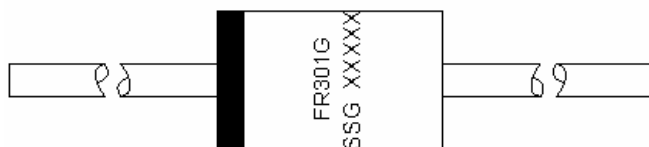
Mechanical Data

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Mounting Position: Any
- High temperature soldering guaranteed: 250°C/10 seconds/.375" (9.5mm) lead

DO-201AD				
Dim	Min	Max	Min	Max
A	25.4	—	1.000	—
B	8.50	9.50	0.335	0.374
C	1.20	1.30	0.047	0.051
D	5.0	5.60	0.197	0.220
All	In mm		In inch	

Marking Diagram:

Where XXXXX is YYWWL



FR301G = Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information

Device	Package	Shipping
FR301G-FR307G	DO-201AD (Pb-Free)	1250pcs / tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.



Maximum Ratings and Electrical Characteristics @T_A=25° C unless otherwise specified

Characteristic	Symbol	FR 301G	FR 302G	FR 303G	FR 304G	FR 305G	FR 306G	FR 307G	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V _{R(RMS)}	35	70	140	280	420	560	700	V
Average Rectified Output Current @T _L = 75° C	I _o	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	125							A
Forward Voltage @I _F = 3.0A	V _{FM}	1.3							V
Peak Reverse Current @T _A = 25° C At Rated DC Blocking Voltage @T _A = 125° C	I _{RM}	5.0 100							μA
Reverse Recovery Time (Note 1)	t _{rr}	150				250	500		nS
Typical Junction Capacitance (Note 2)	C _j	60							pF
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150							°C

Note: 1. Measured with I_F = 0.5A, I_R = 1.0A, I_T = 0.25A,
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

RATINGS AND CHARACTERISTIC CURVES (FR301G THRU FR307G)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

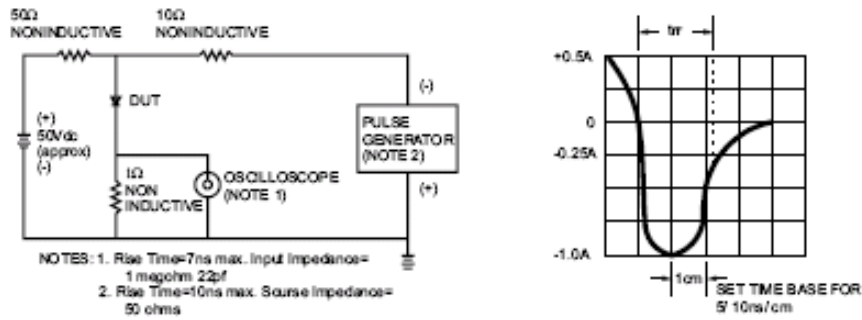


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

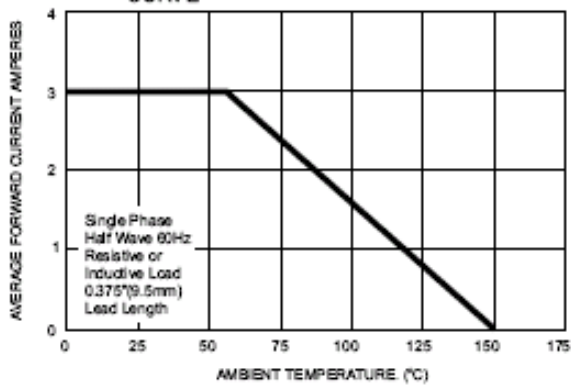


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

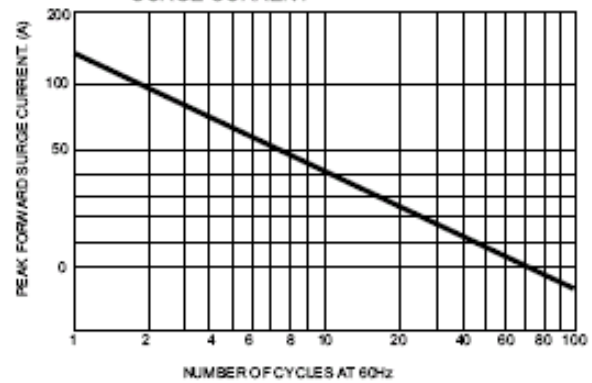


FIG.4- TYPICAL FORWARD CHARACTERISTICS

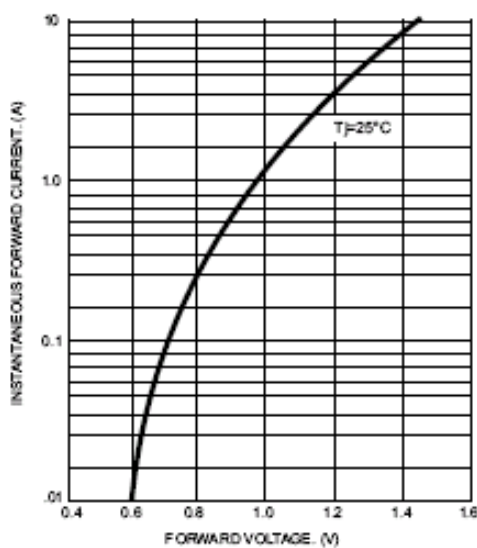
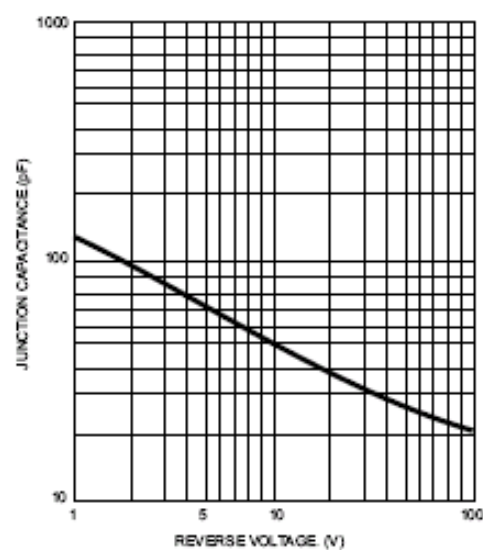


FIG.5- TYPICAL JUNCTION CAPACITANCE





DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd 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 the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 7- The products (technologies) described in the datasheet(s) 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..