

5.0 AMP LOW V_F SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 20 to 100 Volts

Forward Current - 5.0 Ampere

50SQ100

DO-201AD

Axial Plastic Package

RoHS compliant



DO-201AD

FEATURES

1. Low forward voltage drop
2. High current capability
3. High reliability
4. High surge current capability
5. Epitaxial construction

APPLICATIONS:

1. Switching Mode Power Supplies
2. DC/DC converters,
3. Freewheeling and polarity protection diodes.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

DESCRIPTION	SYMBOL	50SQ100	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Voltage	V_{RMS}	70	V
Maximum DC Blocking Voltage	V_{DC}	100	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{F(AV)}$	5.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150	A
Maximum Instantaneous Forward Voltage at 5.0A	V_F	0.6	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_J = 25^\circ\text{C}$	5.0	mA
	$T_J = 100^\circ\text{C}$	50	
Typical Junction Capacitance (Note1)	C_J	380	pF
Typical Thermal Resistance RqJA (Note 2)	t_{tr}	10	°C/W
Operating Temperature Range T_J	T_J, T_{slg}	-65 to +150	°C
Storage Temperature Range T_{STG}	$R_{\theta JA}$	-65 to +150	°C

- NOTES:**
1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 2. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5"(12.7mm) Lead Length.



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Typical Characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

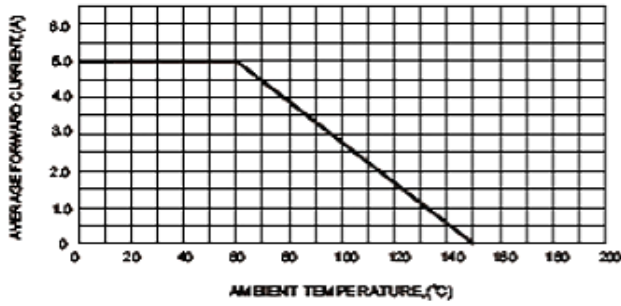


FIG.2-TYPICAL FORWARD CHARACTERISTICS

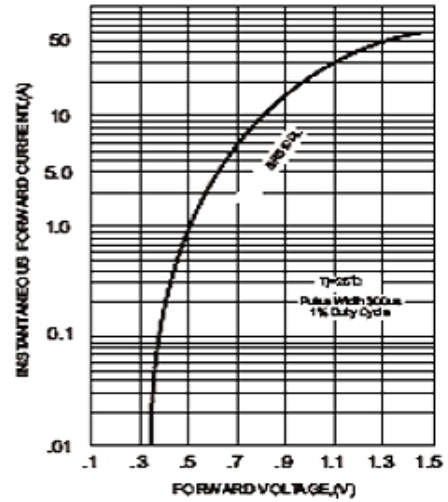


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

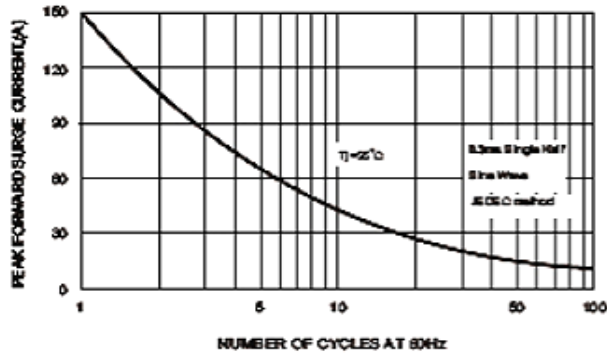


FIG.5- TYPICAL REVERSE CHARACTERISTICS

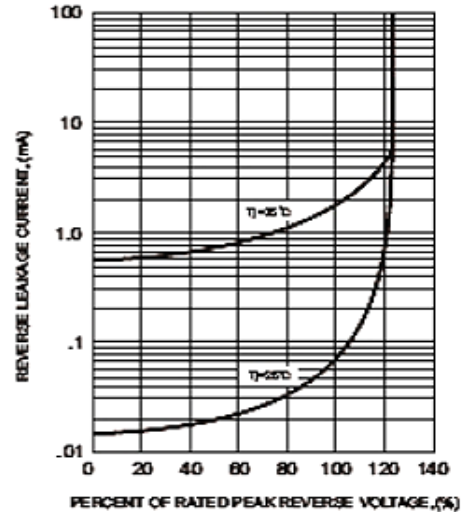
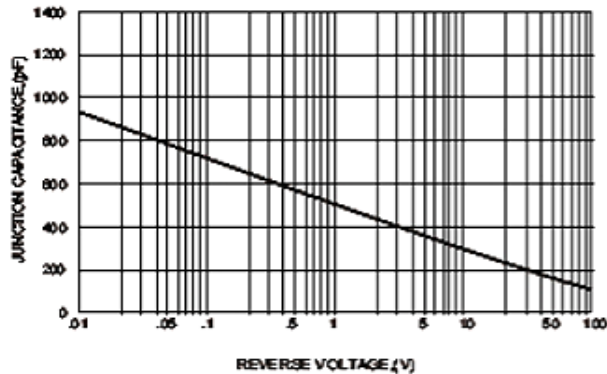
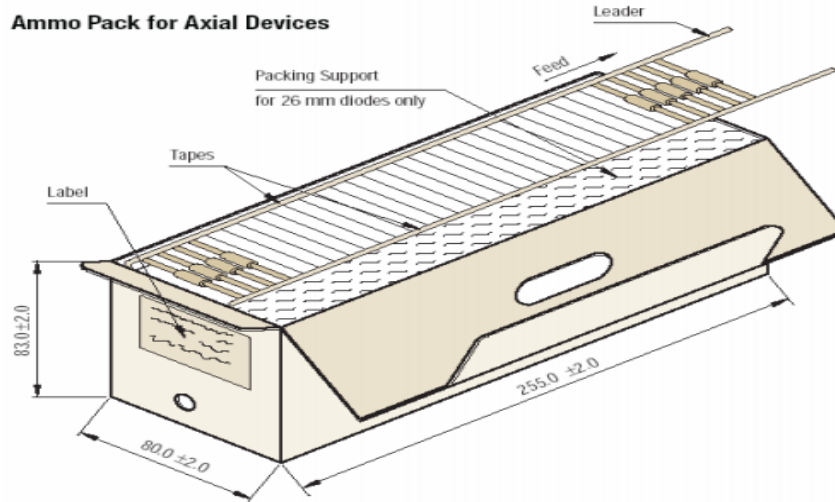


FIG.4-TYPICAL JUNCTION CAPACITANCE



Package Details

AMMO PACKING FOR DO-201AD



All Dimensions are in mm

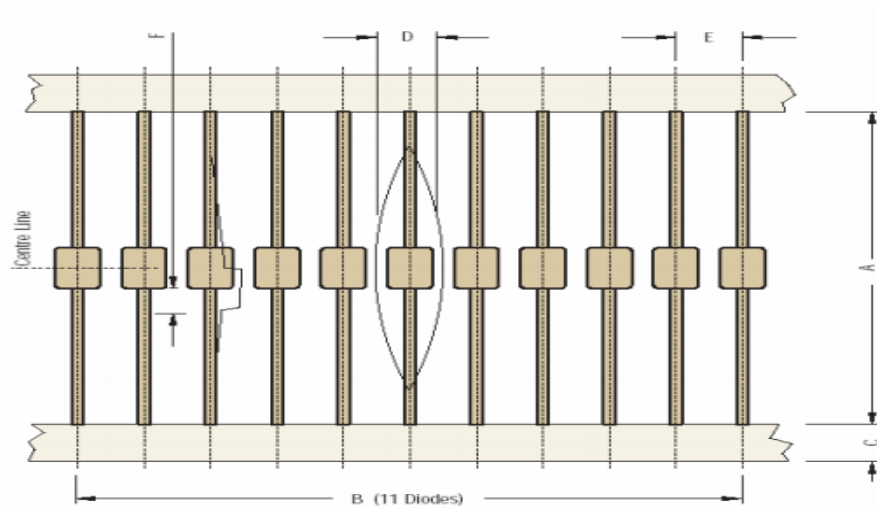
Packaging Information

Package/ Case Type	Packaging Type	Std. Packing		Inner Carton		Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
DO-201AD	T&A	1,200	1.2K	29 x 8 x 15	1.68	10.8K	46 x 36 x 25	15.3

T & A: Tape and Ammo Pack

Package Details

AXIAL TAPE FOR DO-201AD



DO-201AD 52 mm Tape		
DIM	Min	Max
A	50.0	54.0
B	95.0	105.0
C	5.60	6.50
D		1.5R
E	9.50	10.50
F		1.25

All Dimensions are in mm

TAPE SPECIFICATIONS

1. 300 mm (Min) leader tape on every roll.
2. No. of empty places allowed 0.25% without consecutive empty places.
3. Ends of leads shall normally not protrude beyond the tapes.
4. Components shall be held sufficiently in the tape or tapes so that they can not come free in normal handling.



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Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.

If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.

The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	Time	Condition
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH



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Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



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CIN No. U32109DL1964PTC004291