3.0Amp Ultar Fast Rectifiers

UF5400 TO UF5408

DO-201AD
Leaded
Plastic Package
RoHS compliant

FEATURES:

1. The plastic package carries Underwriters LaboratoryFlammability Classification 94V-0
2. Open Junction chip
3. Low reverse leakage
4. High forward surge current capability
5. High temperature soldering guaranteed 250 C/10 seconds at terminals

ABSOLUTE MAXIMUM RATINGS (Ta = 25 ℃ Unless otherwise specified)

PARAMETER	SYMBOL	UF 5400	UF 5401	UF 5402	UF 5403	UF 5404	UF 5405	UF 5406	UF 5407	UF 5408	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current at T_L=100°C	$I_{(AV)}$	3.0									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150.0									A
Maximum instantaneous forward voltage at 3.0A	V_F	1.0			1.40		1.7				V
Maximum DC reverse current T_A =25°C	I_R	10.0									μA
at rated DC blocking voltage T_A=125°C		500									
Maxinum reverse recovery time(Note 1)	T_{rr}	50					75				ns
Typical junction capacitance (Note2)	C_J	70.0									pF
Typical thermal resistance	R_{qJA}	45.0									°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150									°C

Notes:

1. Reverse recovery time test condition: I_F=0.5A I_R=1.0A I_{rr}=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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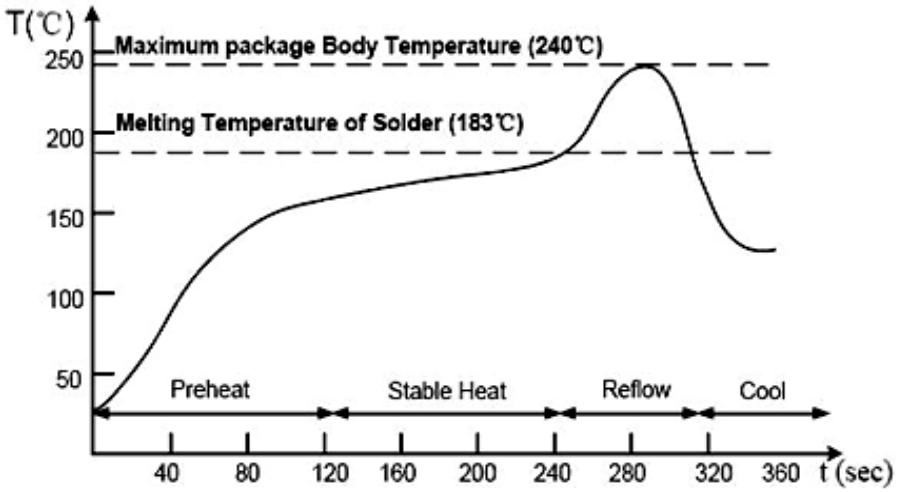
Suggested Soldering Temperature Profile



Note

1. Recom m ended reflow m ethods: IR, vapor phase oven, hot air oven, wave solder.
2. The device can be exposed to a m axim um tem perature of 265°C for 10 seconds.
3. Devices can be cleaned using standard industry m ethods and solvents.
4. If reflow temperatures exceed the recom m ended profile, devices m ay not m eet the perform ance requirem ents.

TYPICAL CHARACTERISTICS CURVES

Fig 1: Derating Curve Output Rectified Current

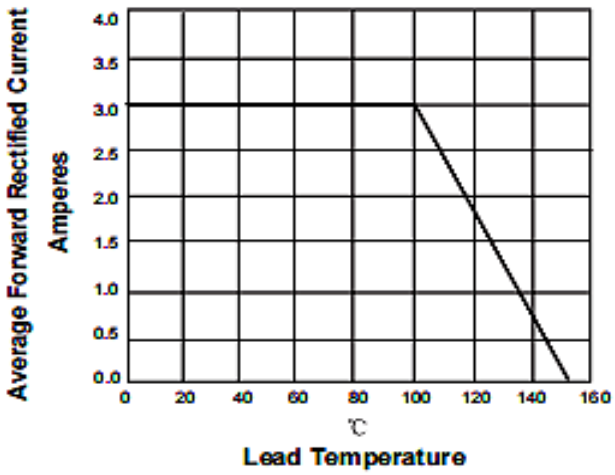


Fig 2: Maximum Non-Repetitive Peak Forward Surge Current Perleg

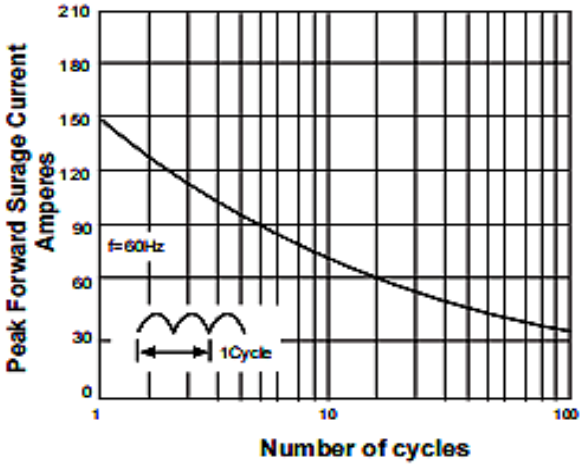


Fig 3: Typical Forward Voltage Characteristics

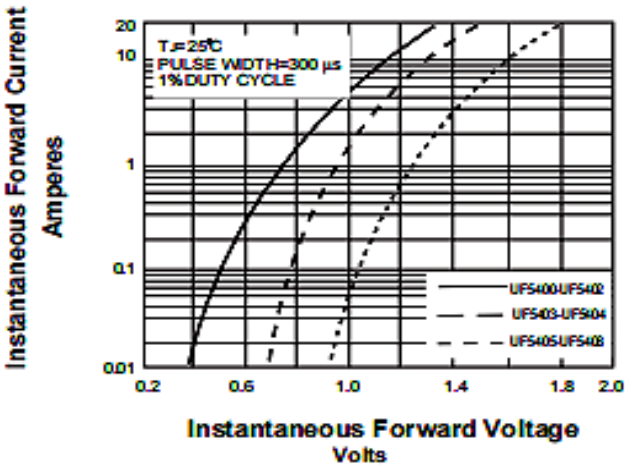
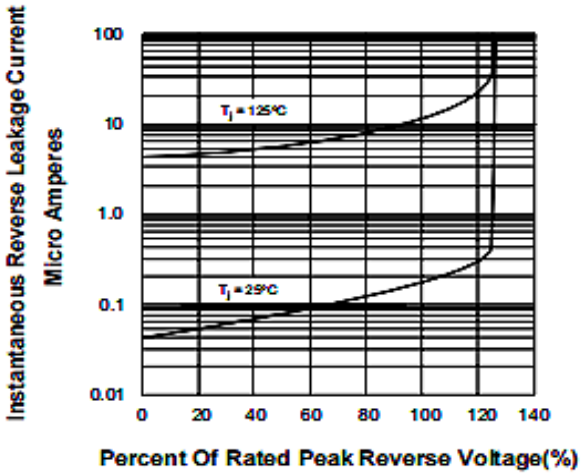
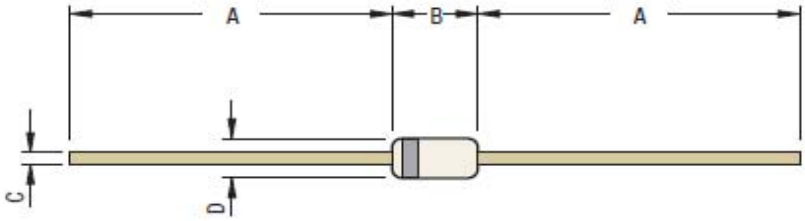


Fig 4: Typical Reverse Leakage Characteristics



PACKAGE DETAILS

DO-201AD
Axial Plastic Package



DIM	Min	Max
A	25.40	—
B	4.20	5.20
C	0.70	0.90
D	2.00	2.70

All dimensions are in mm

Cathode is marked by a Band

MECHANICAL DATA

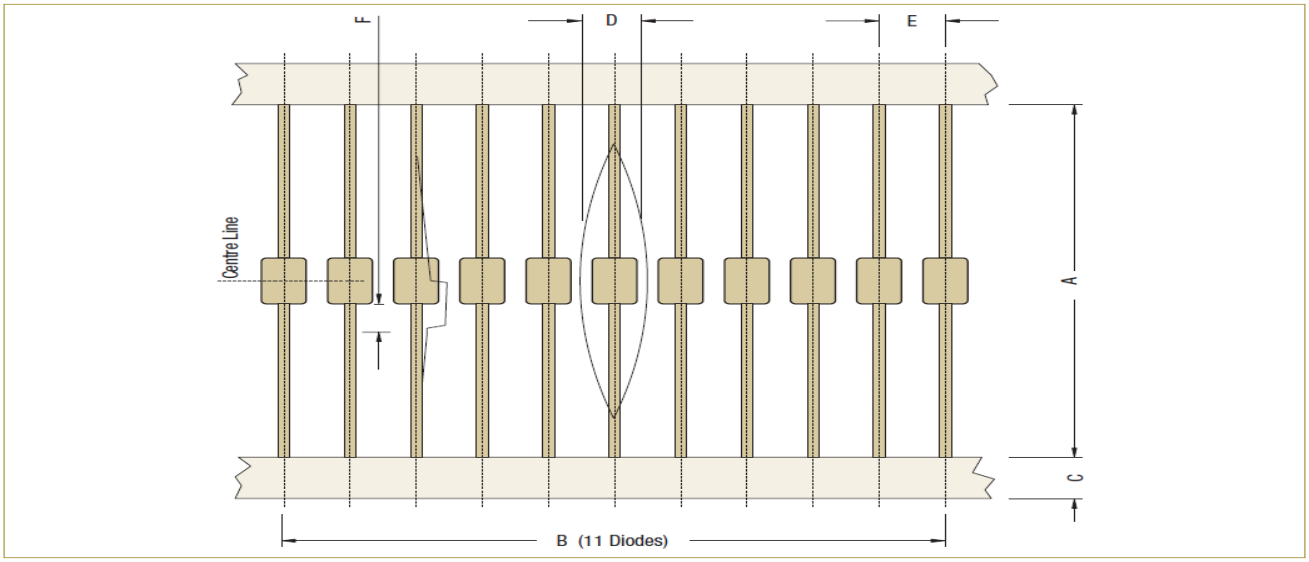
Case : Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.0345 ounce, 0.98 grams

Package Information

T & A: Tape and Ammo Pack; **T & R:** Tape and Reel; **Bulk:** Loose in Poly Bags; **Tube:** Tube and Carton; **K:** 1,000

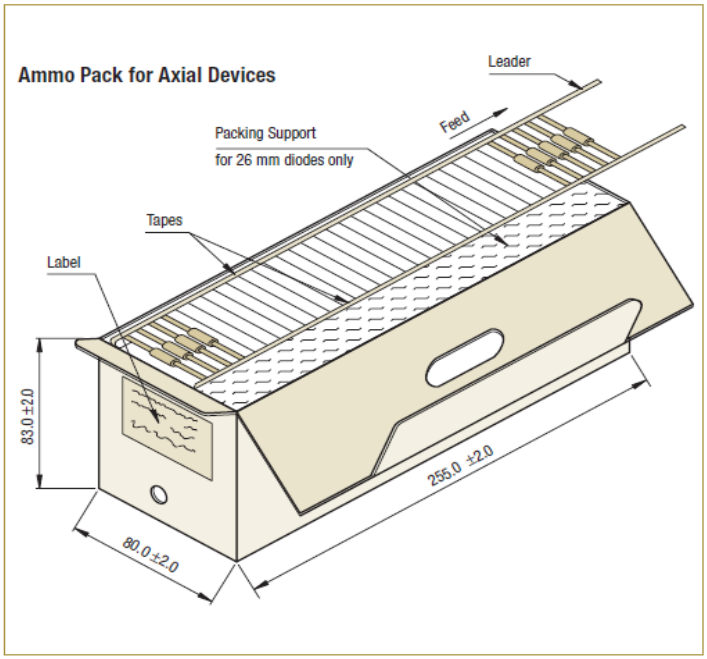
Package / Case Type	Packaging Type	Std. Packing	Inner Carton			Outer Carton		
		Qty	Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
DO-201AD	T & A	1,250	1.25K	29 x 8 x 15	1.7	10.8K	46 x 36 x 25	15.3

Axial Tape and Ammo Packaging



Axial Tape Specifications

Device	Type	A		B		C		D		E		F	
	mm	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DO-201AD	52 mm	50.0	54.0	95.0	105.0	5.6	6.5	—	1.5R	9.5	10.5	—	1.3



Taping Specification

- 300 mm (Min) leader tape on every roll.
- No. of empty places allowed 0.25% without consecutive empty places.
- Ends of leads shall normally not protrude beyond the tapes.
- 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

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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