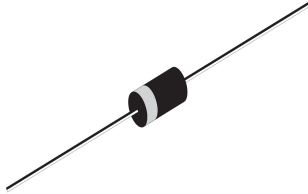


## FAST SWITCHING PLASTIC RECTIFIERS

**BA157S BA158S  
BA159S**



A-405

**A-405 Axial Leaded  
Plastic Package  
RoHS compliant**

**APPLICATION:** Fast switching for higher efficiency

### ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C Unless otherwise specified)

PARAMETER	SYMBOL	VALUE			UNIT
		BA157S	BA158S	BA159S	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	400	600	1000	V
Maximum RMS Voltage	$V_{RMS}$	280	420	700	V
Maximum DC Blocking Voltage	$V_{DC}$	400	600	1000	V
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0			A
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30			A
Maximum Forward Voltage at 1A	$V_F$	1.3			V
Maximum Reverse Current $T_J=25^\circ\text{C}$	$I_R$	5.0			$\mu\text{A}$
at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$		500			
Typical Junction Capacitance (Note 1)	$C_J$	12			pF
Maximum Reverse Recovery Time (Note 2)	$t_{rr}$	150		250	ns
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150			$^\circ\text{C}$

#### Notes:

1. Measured at 1MHz and applied reverse voltage of 4.0 VDC
2. Reverse Recovery Test Conditions :  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$

## TYPICAL CHARACTERISTICS CURVES

Fig 1: Typical Instantaneous Forward Characteristics

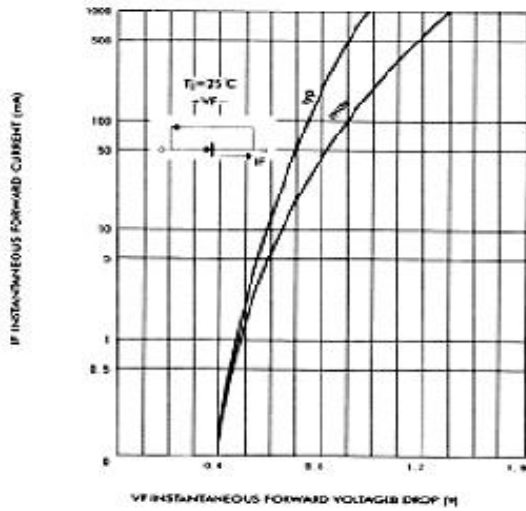


Fig 2: Typical Forward Current Derating Curve

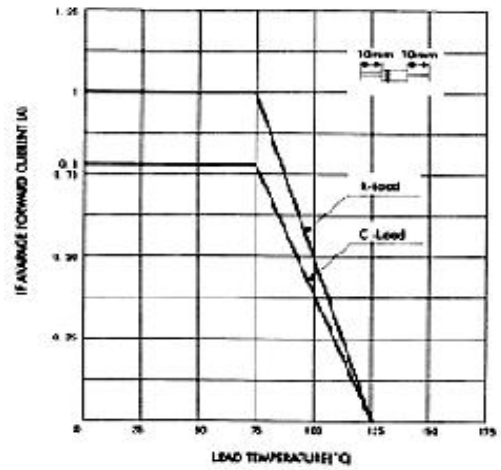


Fig 3: Typical Thermal Impedance

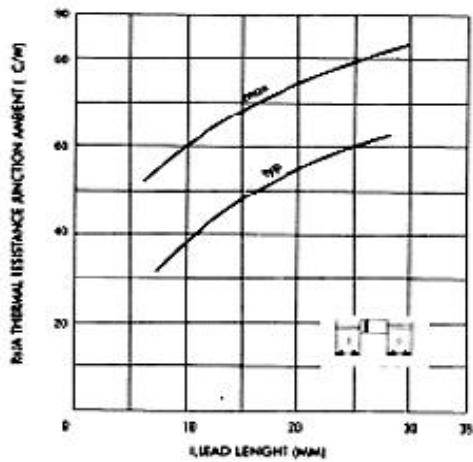
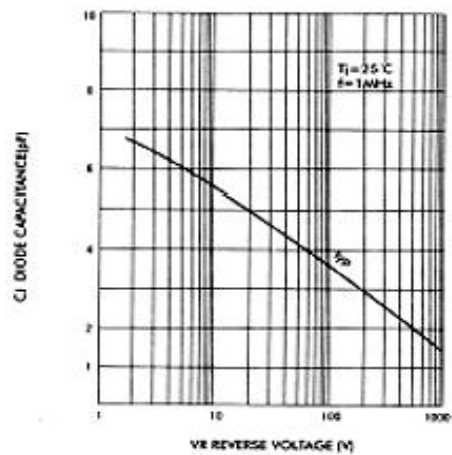
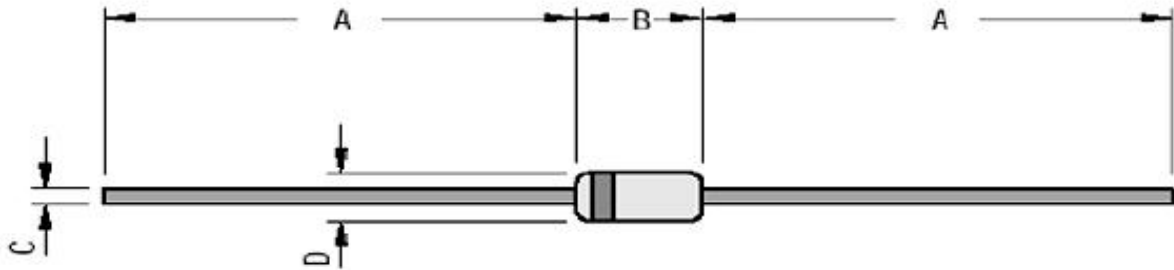


Fig 4: Typical Junction Capacitance



## PACKAGE DETAILS

### A-405 AXIAL LEAD PLASTIC PACKAGE

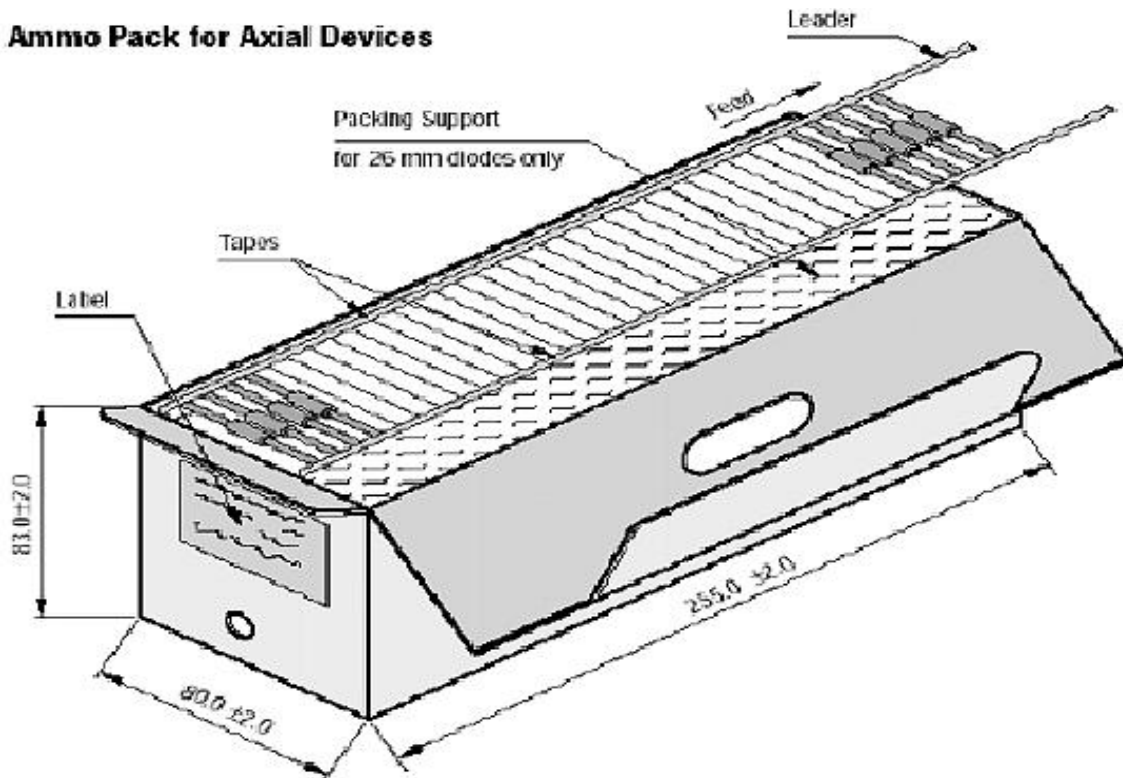


DIM	MIN	MAX
A	25.40	
B	4.20	5.20
C	0.55	0.65
D	2.30	2.70

All Dimenstions arwe in mm

## AMMO PACKING FOR A-405

### Ammo Pack for Axial Devices

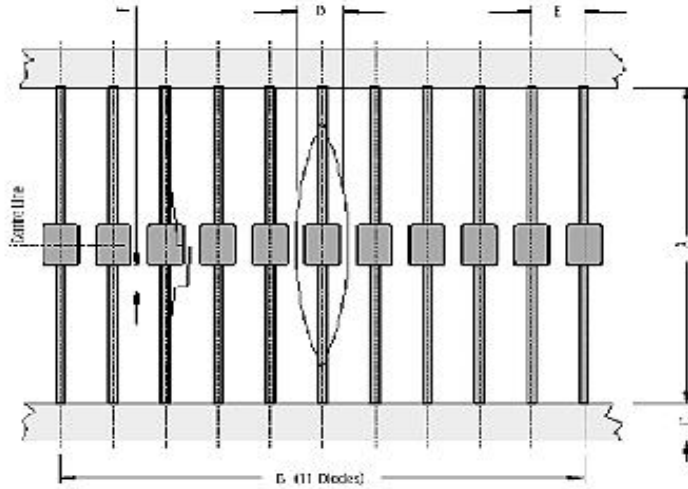


All Dimensions are in mm

### 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)
A-405	T&A	5,000	5K	27 x 8 x 14	1.96	45K	46 x 35 x 25

### Axial Tape for A-405



#### TAPE SPECIFICATIONS

1. 300 mm (min) leader tape on every roll.
2. No. of empty places allowed 0.25% without consecutive empty places
3. End 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.

#### A-405 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



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An IATF 16949, ISO9001 and ISO 14001 Certified Company



## 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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