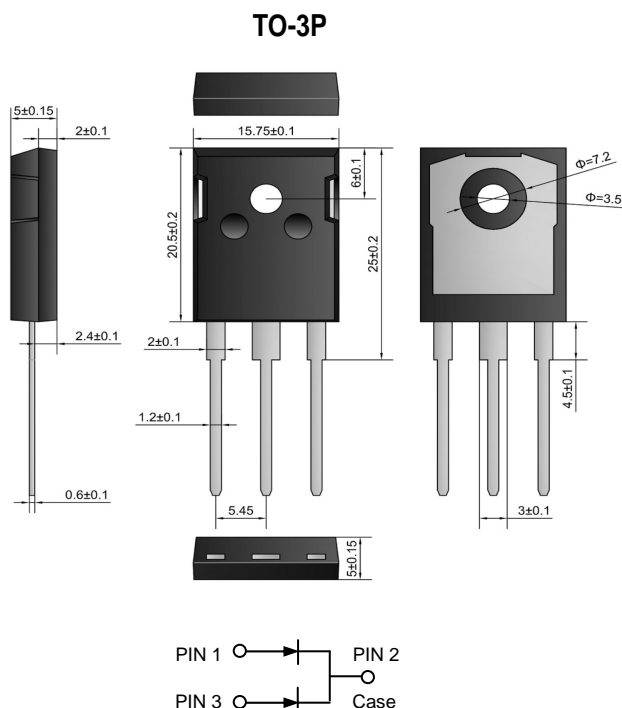


## Features

- Glass Passivated Die Construction
- Superfast 35nS and 50nS Recovery Time
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Epoxy Meets UL 94V-0 Classification
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

## Mechanical Data

- Case: TO-3P, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-750, Method 2026
- Polarity: See Diagram
- Weight: 5.6 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 1.2 N.m Max.



## Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	U30D 05C	U30D 10C	U30D 15C	U30D 20C	U30D 30C	U30D 40C	U30D 50D	U30D 60C	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>									
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	150	200	300	400	500	600	V
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	105	140	210	280	350	420	V
Average Rectified Output Current @T <sub>C</sub> = 100°C	I <sub>O</sub>	30 15								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	300								A
Forward Voltage per diode @I <sub>F</sub> = 15A	V <sub>FM</sub>	0.975			1.3		1.7			V
Peak Reverse Current At Rated DC Blocking Voltage	I <sub>RM</sub>	10 500								μA
Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35				50				nS
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	175						145		pF
Thermal Resistance Junction to Ambient per diode	R <sub>JA</sub>	40								°C/W
Thermal Resistance Junction to Case per diode	R <sub>JC</sub>	1.5								
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150								°C

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



# U30D05C – U30D60C

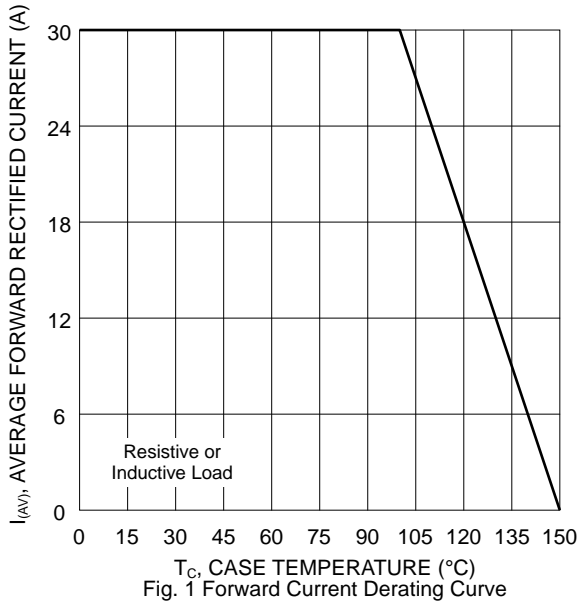


Fig. 1 Forward Current Derating Curve

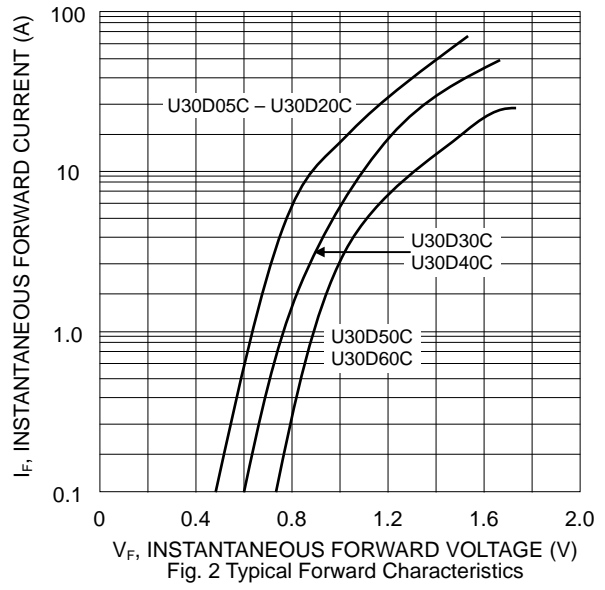


Fig. 2 Typical Forward Characteristics

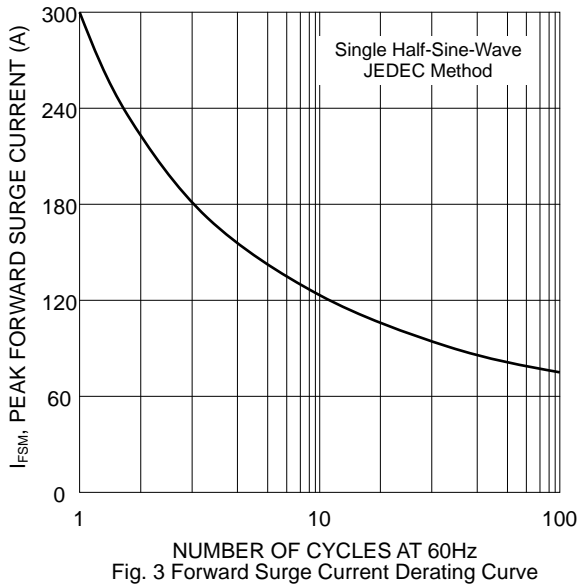


Fig. 3 Forward Surge Current Derating Curve

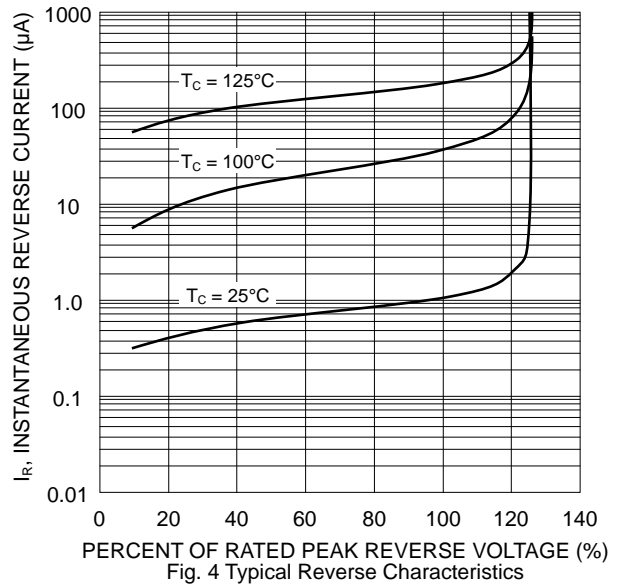


Fig. 4 Typical Reverse Characteristics

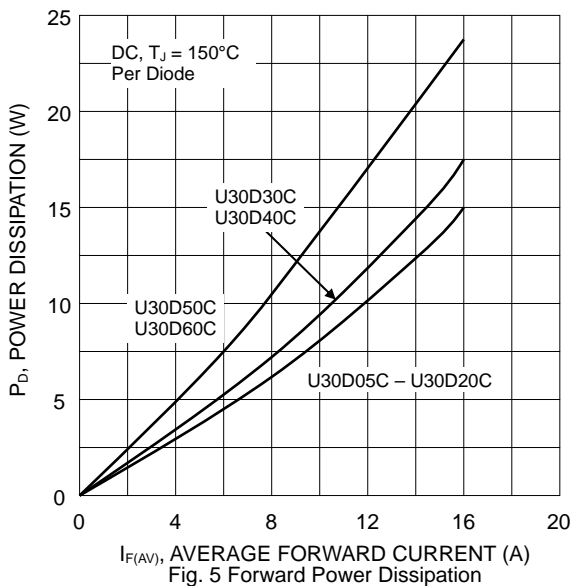


Fig. 5 Forward Power Dissipation

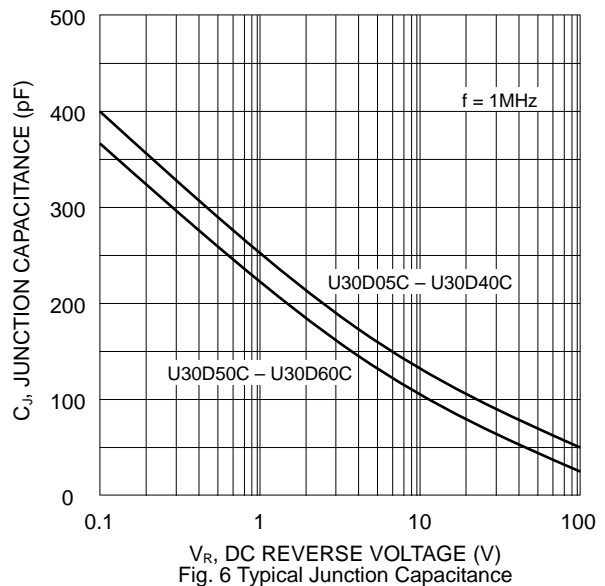


Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION

U30DxxC = Device Number  
 xx = 05, 10, 15, 20, 30, 40, 50 or 60  
 Polarity = As Marked on Body

## PACKAGING INFORMATION

### BULK

Tube Size L x W x H (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
505 x 46 x 6.5	30	520 x 145 x 95	1,200	540 x 306 x 115	2,400	18.0

**Note:** 1. Anti-static tube, water clear color.

## RECOMMENDED SCREW MOUNTING ARRANGEMENT

Recommended isolated mounting when screw is at heatsink potential. 6-32 hardware is used.

A conical washer should be used to apply proper force to the device. Screw should not be tightened with any type of air-forced torque or equipment that may cause high impact on device package.

The interface should apply a layer of thermal grease or a highly conductive thermal pad for better heat dissipation.

