POWER SEMICONDUCTORS

H30D05C – H30D60C

RoHS

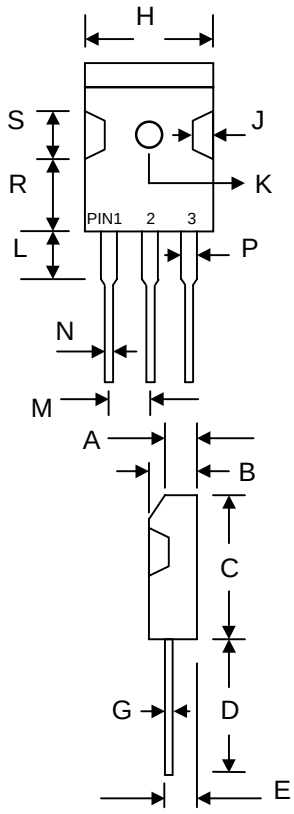
30A GLASS PASSIVATED DUAL ULTRAFAST RECTIFIER

Features

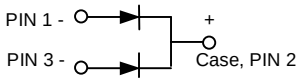
- Glass Passivated Die Construction
- Ultra-Fast Switching
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O

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: 11.5 cm-kg (10 in-lbs) Max.
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



TO-3P		
Dim	**Min**	**Max**
A	3.20	3.50
B	4.70	5.30
C	—	23.00
D	19.00	—
E	2.80	3.20
G	0.45	0.85
H	—	16.20
J	1.70	2.70
K	3.15 Ø	3.65 Ø
L	—	4.50
M	5.25	5.65
N	1.10	1.40
P	—	2.50
R	11.70	12.70
S	5.00	6.00
All Dimensions in mm		



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

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

Characteristic	Symbol	H30D 05C	H30D 10C	H30D 15C	H30D 20C	H30D 30C	H30D 40C	H30D 50C	H30D 60C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	500	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	350	420	V
Average Rectified Output Current @T_C = 100°C	I_O	30								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300								A
Forward Voltage @I_F = 15A	V_{FM}	1.0				1.3		1.7		V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	10 500								μA
Reverse Recovery Time (Note 1)	t_{rr}	50				75			100	nS
Typical Junction Capacitance (Note 2)	C_j	175						145		pF
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150								°C

Note: 1. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

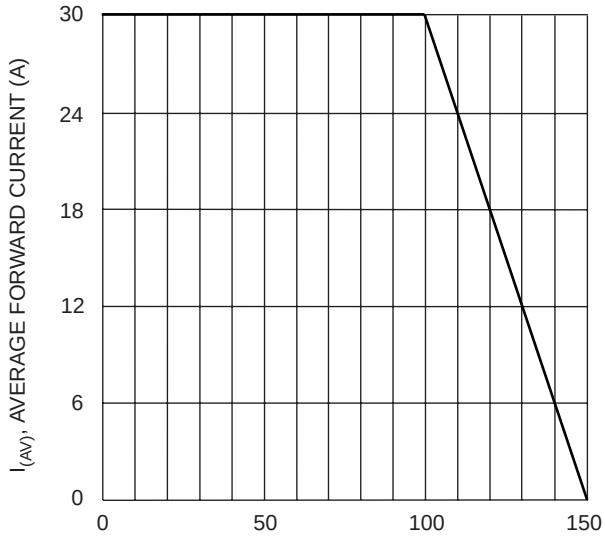


Fig. 1 Forward Current Derating Curve

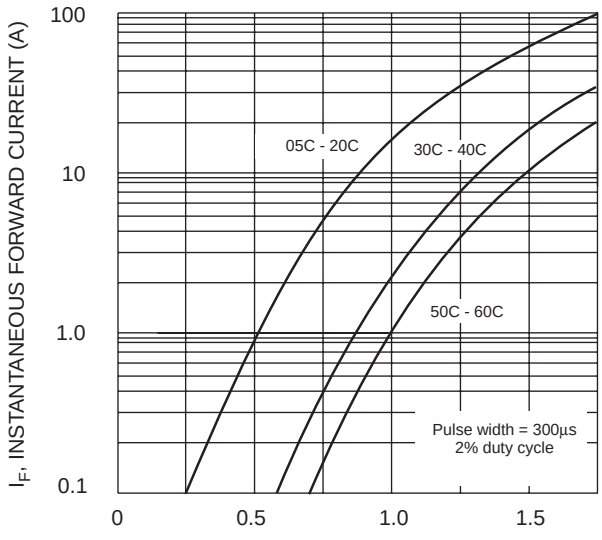


Fig. 2 Typical Forward Characteristics

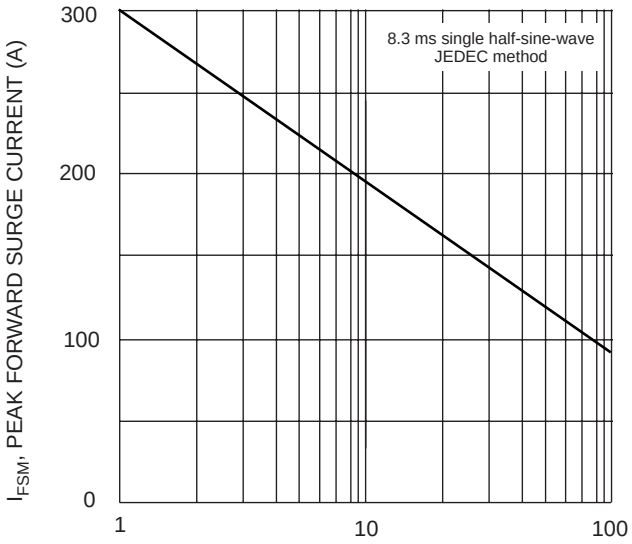


Fig. 3 Maximum Non-Repetitive Surge Current

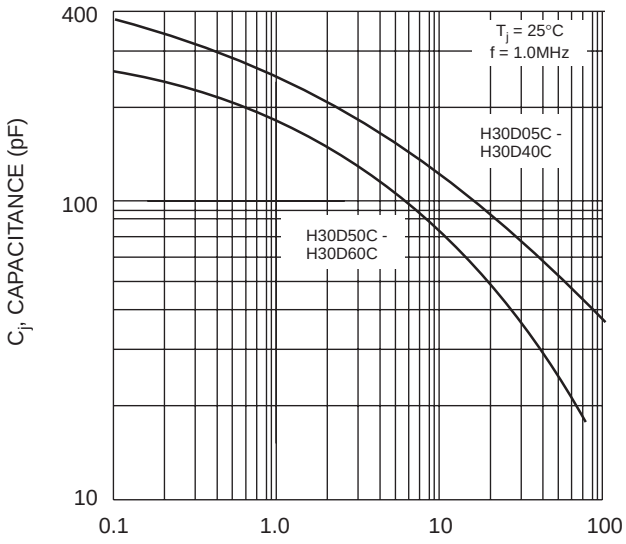
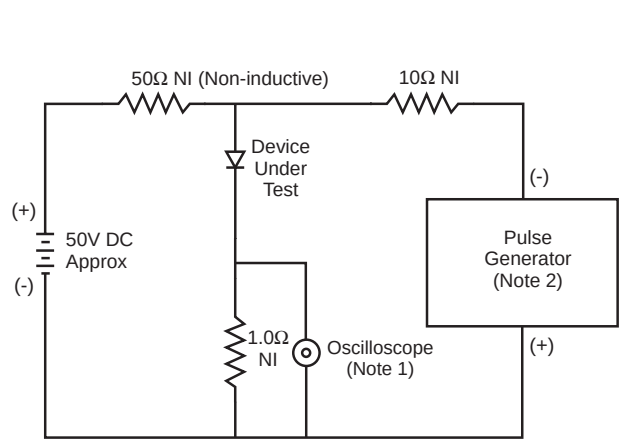


Fig. 4 Typical Junction Capacitance



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

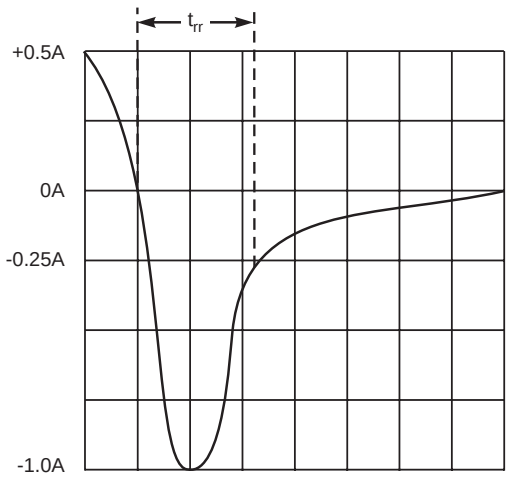
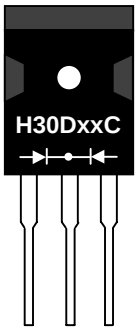


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

MARKING INFORMATION



H30DxxC = 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

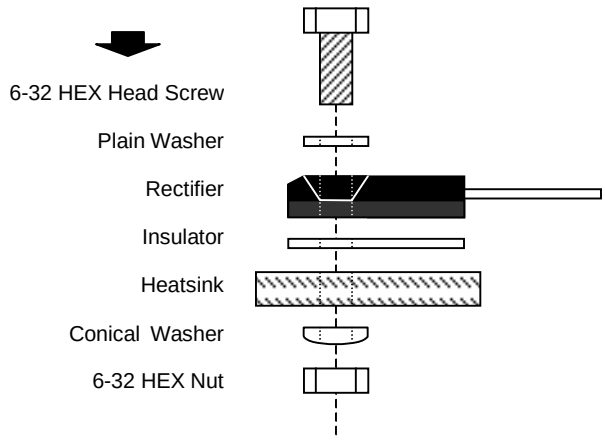
Note: 1. Anti-static tube, water clear color.

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.



ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
H30D05C	TO-3P	30 Units/Tube
H30D10C	TO-3P	30 Units/Tube
H30D15C	TO-3P	30 Units/Tube
H30D20C	TO-3P	30 Units/Tube
H30D30C	TO-3P	30 Units/Tube
H30D40C	TO-3P	30 Units/Tube
H30D50C	TO-3P	30 Units/Tube
H30D60C	TO-3P	30 Units/Tube

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, H30D05C-LF**.

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