TO-247-3L Plastic-Encapsulated Ultra Fast Recovery Diodes

1 General Description

1.1 Features

- Ultra fast recovery time
- Low recovery loss
- Low forward voltage
- Low leakage current

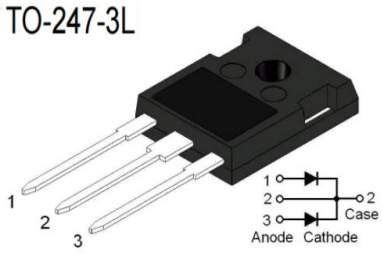
REVERSE VOLTAGE
650V
FORWARD CURRENT
60Ampere

1.2 Typical Applications

- Snubber diode
- Switch power supply
- UPS
- Antiparalle diode for high frequency switching devices

1.3 Mechanical Data

- Package: TO-247-3L
- Terminals: solderable per MIL-STD-750,Method 2026
- Polarity: As marked



2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER		SYMBOL	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	650	V
Working peak reverse voltage		V_{RWM}	650	V
DC blocking voltage		V_R	650	V
Average rectified output current	Per leg	$I_{F(AV)}$	30	A
	Total		60	
Non-repetitive peak forward surge current 8.3ms half sine wave		I_{FSM}	210	A
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{STG}	-55 to +150	℃
Maximum Thermal Resistance Between junction and case Per leg		$R_{\theta JC}$	1.5	℃/W
Maximum Thermal Resistance Between junction and Ambient Per leg		$R_{\theta JA}$	40	℃/W

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	Min	Typ	Max	UNIT
Maximum instantaneous Forward Voltage drop per leg	V_F	I_F=30.0A,Tj =25℃	-	1.2	1.6	V
		I_F=30.0A,Tj =125℃	-	1.0	1.2	
Reverse current	I_R	V_R=650V，Tj =25℃	-	-	1	μA
		V_R=650V，Tj =125℃	-	-	1	mA
Reverse recovery time	t_{rr}	I_F= 0.5A,I_R=1A,Irr=0.25A	-	-	60	nS

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

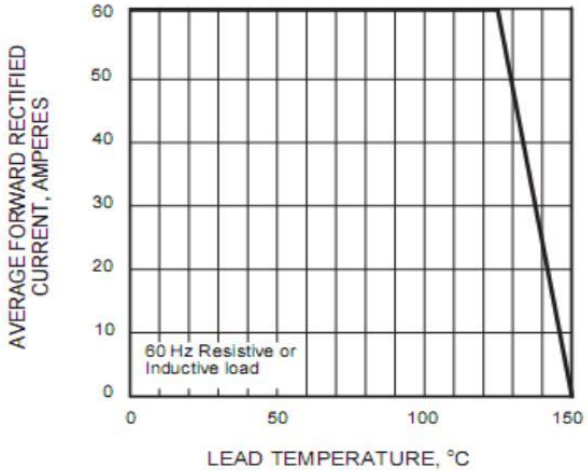


Figure 1. Forward Current derating Curve

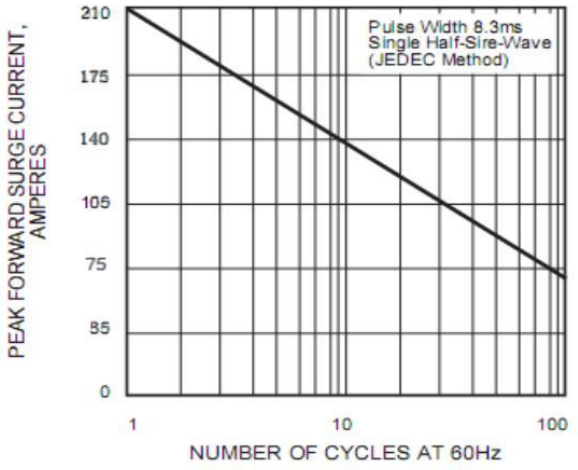


Figure 2. Peak Forward surge Current

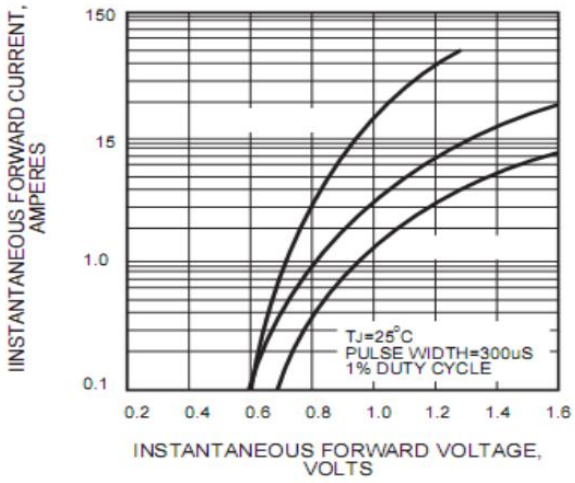


Figure 3. Forward Characteristics

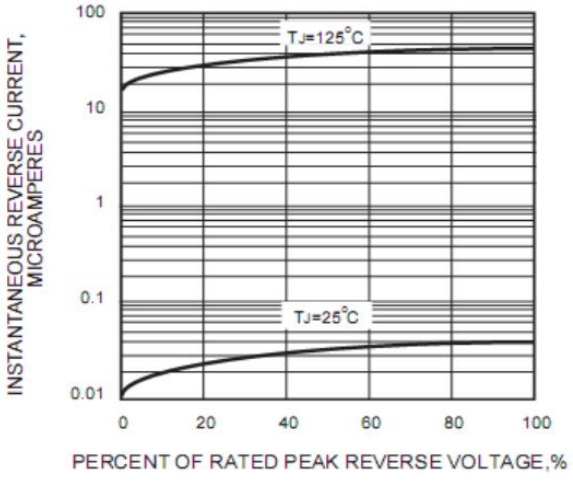


Figure 4. Reverse Characteristics

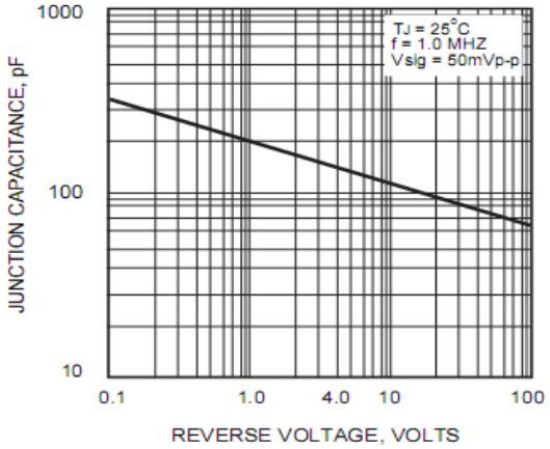
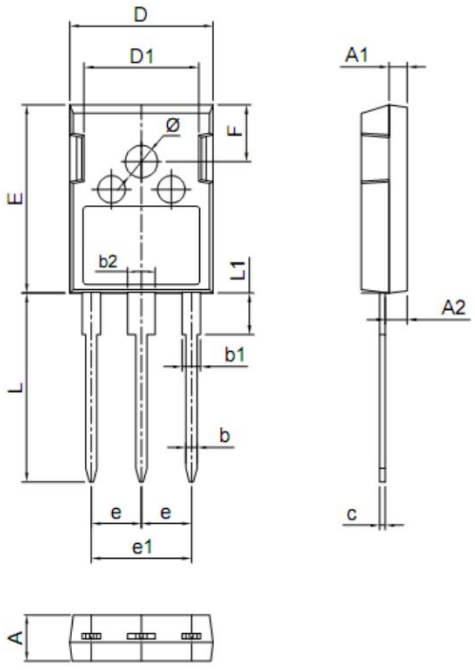


Figure 5. Junction capacitance

5 Package Outline Dimensions



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.90	5.10	0.193	0.201
A1	1.90	2.10	0.075	0.083
A2	2.20	2.40	0.087	0.094
b	1.07	1.33	0.042	0.052
b1	1.90	2.30	0.075	0.091
b2	2.90	3.30	0.114	0.130
c	0.55	0.68	0.022	0.027
D	15.75	16.05	0.620	0.632
D1	11.60	12.00	0.457	0.472
E	20.20	20.80	0.795	0.819
e	5.45 (BSC)		0.215 (BSC)	
e1	10.90 (BSC)		0.429 (BSC)	
F	6.05	6.25	0.238	0.246
L	20.10	20.40	0.791	0.803
L1	4.05	4.35	0.159	0.171
Φ	3.50	3.80	0.138	0.150

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	TUBE (pcs)	CARTON (pcs)
TO-247-3L	Approximate 0.86	30	3000

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