Ultra Fast Recovery Rectifiers

1 General Description

1.1 Features

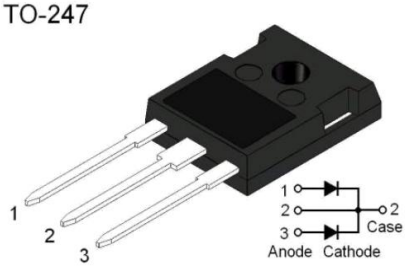
- Ultra fast recovery time
- Low recovery loss
- Low forward voltage
- Low leakage current

REVERSE VOLTAGE
400V
FORWARD CURRENT
30Ampere

1.2 Typical Applications

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

TO-247



1.3 Mechanical Data

- Package: TO-247
- 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}	400	V
Working Peak Reverse Voltage		V_{RWM}	400	V
DC Blocking Voltage		V_R	400	V
Average Rectified Output Current	Per leg	$I_{F(AV)}$	15	A
	Total		30	
Non-repetitive Peak Forward Surge Current 8.3ms Half Sine Wave		I_{FSM}	250	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
Forward Voltage	V_F	I_F=15A,Ta =25℃	-	1.2	1.6	V
		I_F=15A,Ta=125℃	-	1.0	1.2	
Reverse Current	I_R	V_R=400V，Ta =25℃	-	-	1	μA
		V_R=400V，Ta =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)

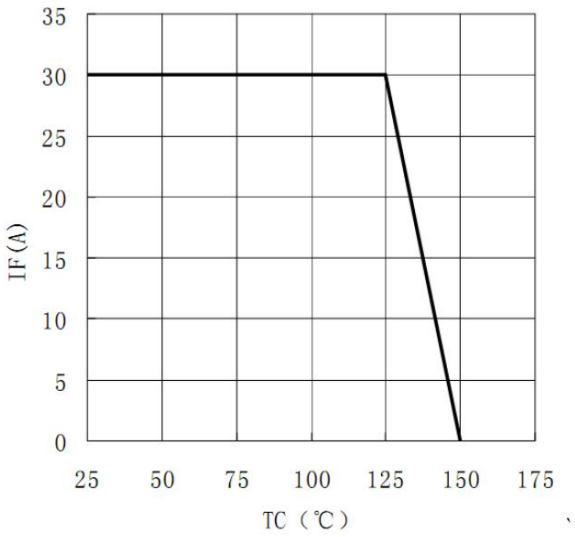


Figure 1. Forward Current derating Curve

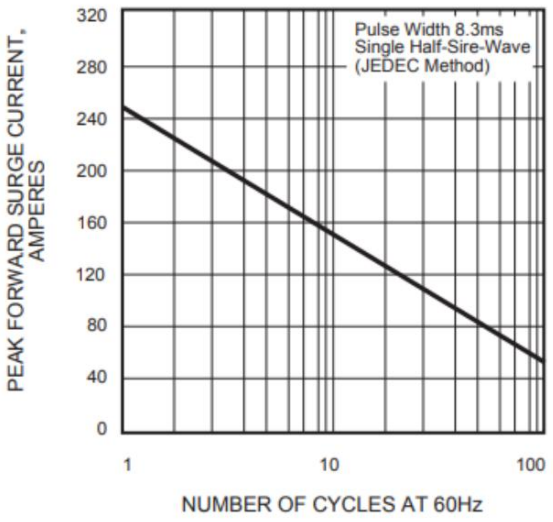


Figure 2. Peak Forward surge Current

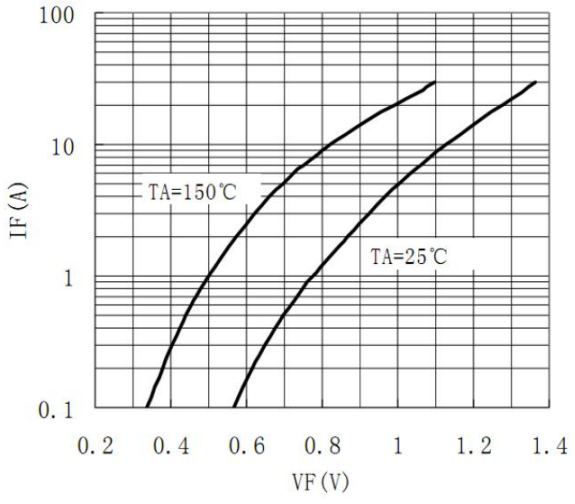


Figure 3. Forward Characteristics

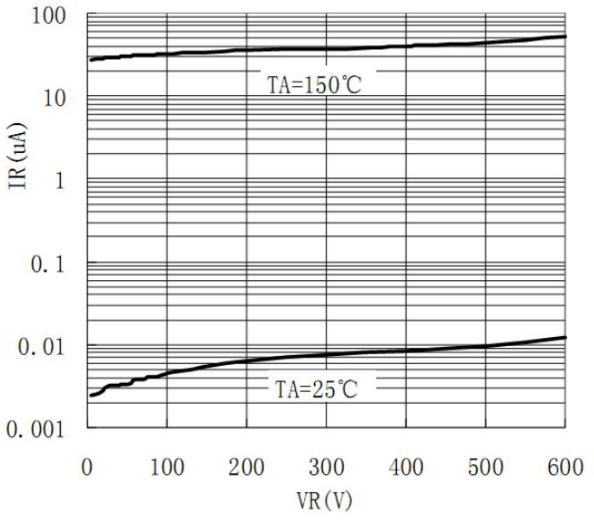


Figure 4. Reverse Characteristics

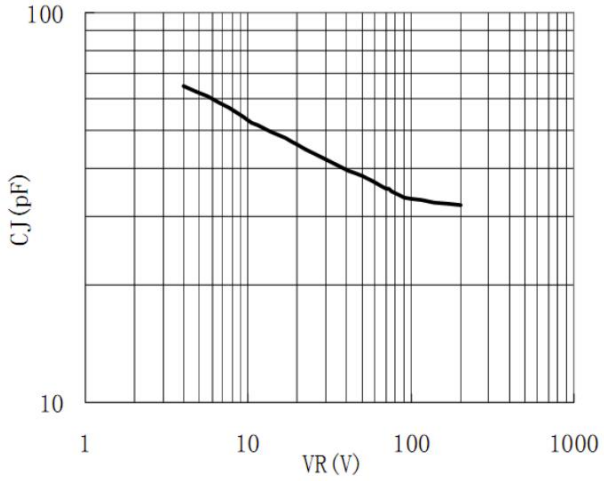
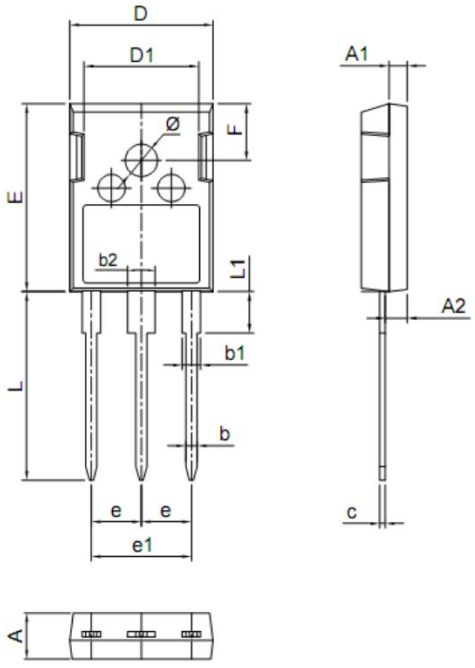


Figure 5. Junction Characteristics

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	Approximate 8.4	30	3000

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