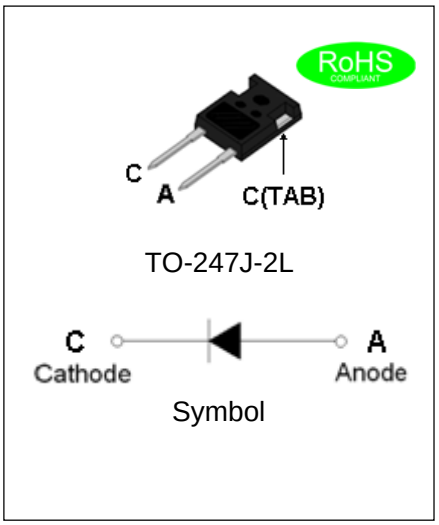
ULTRAFAST RECOVERY RECTIFIER

DESCRIPTION

- Plastic package has underwriters laboratory flammability classification 94V-0
- Lead free in comply with EU RoHS 2011/65/EU directives
- Low reverse leakage current
- Ultrafast recovery time and soft recovery characteristics
- Low recovery loss



MECHANICAL DATA

- Case: TO-247J-2L molded plastic
- Terminals: Solder plated, solderable per J-STD-002
- Weight:5.75gram

ABSOLUTE MAXIMUM RATING (Rating at 25℃ case temperature unless otherwise specified.)

Parameter	Symbol	FDD30U60J1	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum RMS voltage	V_{RMS}	420	V
Maximum DC blocking voltage	V_{DC}	600	V
Average forward current at δ=0.5; T_{mb}≤129℃； square-wave pulse	$I_{F(AV)}$	30	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	300	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	330	A
Junction temperature and storage temperature range	T_j,T_{stg}	-55 to +175	℃

ELECTRICAL CHARACTERISTICS(Rating at 25℃ case temperature unless otherwise specified.)

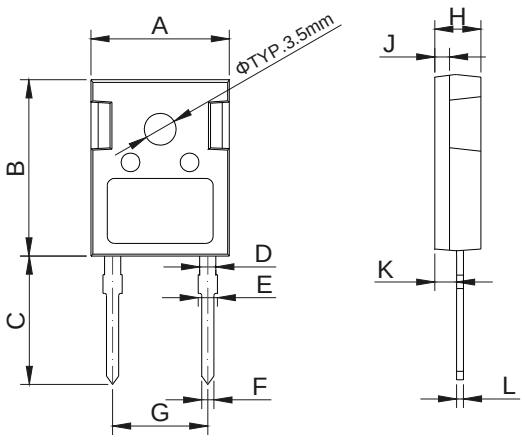
Parameter		Symbol	Min.	Typ.	Max.	Unit
Maximum forward voltage at 30A	T_j=25℃	V_F	-	1.18	1.55	V
	T_j=150℃		-	0.98	-	
Maximum DC reverse current at rated dc blocking voltage	T_j=25℃	I_R	-	-	5	uA
	T_j=150℃		-	-	400	

Parameter		Symbol	Min.	Typ.	Max.	Unit
Reverse recovery time	I_F=1A;V_R=30V;dI_F/dt=50A/μs;T_j=25℃	t_{rr}	-	42	75	ns
	I_F=30A;V_R=400V;dI_F/dt=200A/μs;T_j=25℃		-	65	-	
	I_F=30A;V_R=400V;dI_F/dt=200A/μs;T_j=125℃		-	101	-	
Reverse recovery current	I_F=30A,V_R=400V, dI_F/dt=200A/μs,T_j=25℃	I_{RM}	-	8.4	-	A
	I_F=30A,V_R=400V, dI_F/dt=200A/μs,T_j=125℃		-	15.2	-	
Reverse charge	I_F=30A,V_R=400V, dI_F/dt=200A/μs,T_j=25℃	Q_r	-	272	-	nC
	I_F=30A,V_R=400V, dI_F/dt=200A/μs,T_j=125℃		-	775	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-mb)}$	Thermal resistance from junction to mounting base	-	-	1	℃/W
$R_{th(j-a)}$	Thermal resistance from junction to ambient free air	-	45	-	

PACKAGE MECHANICAL DATA



TO-247J-2L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G		10.88			0.428	
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031

PACKAGE INFORMATION-TO-247J-2L

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	5.75	30	3,600

CHARACTERITICS CURVE

FIG.1 Typical forward characteristics

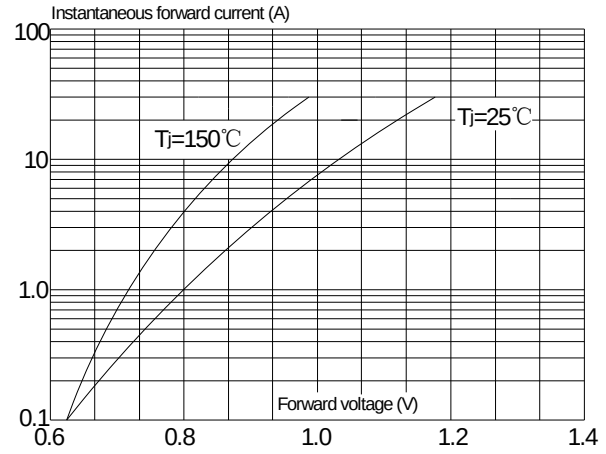


FIG.2 Typical reverse characteristics

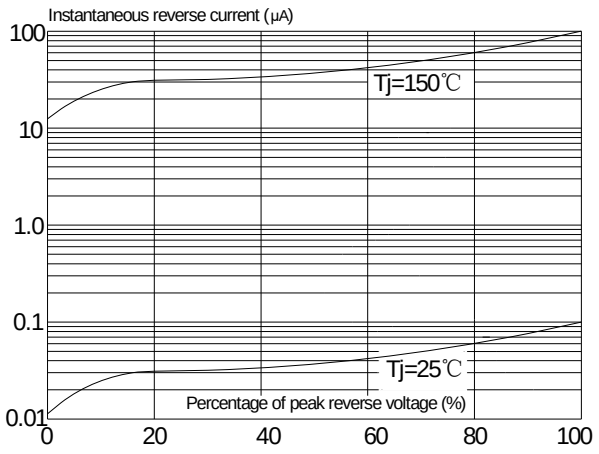


FIG.3 Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

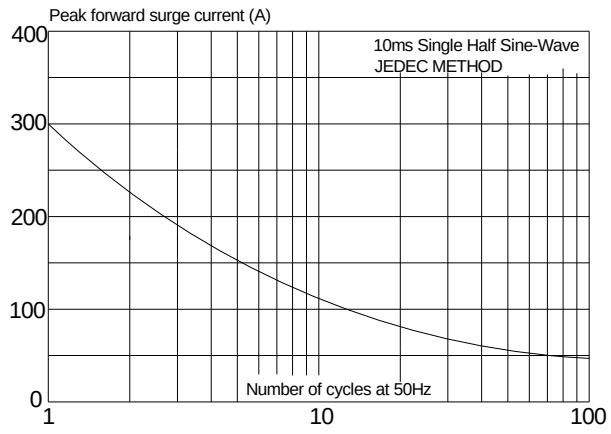


FIG.4 Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

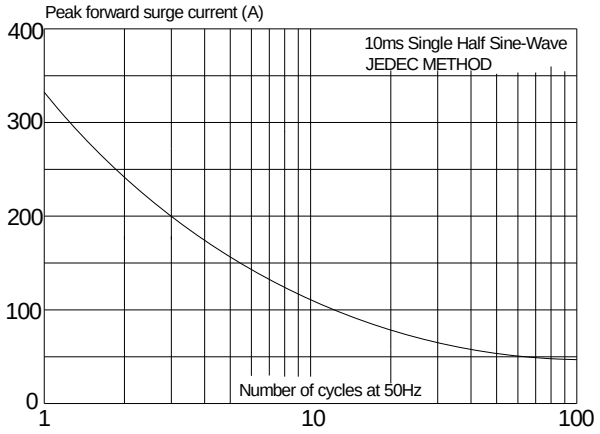


FIG.5: Forward current derating curve

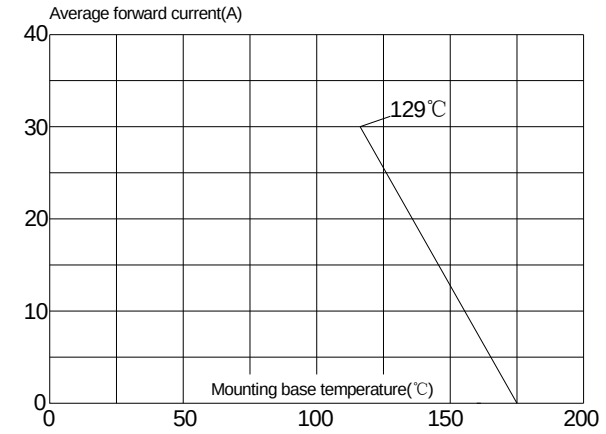


FIG.6: Reverse recovery definitions