



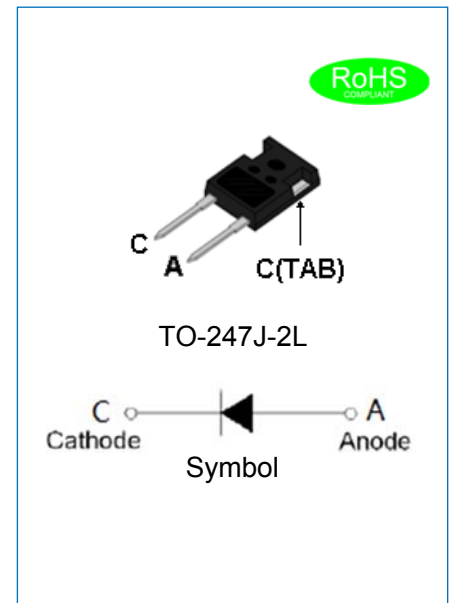
JECR3006SL

EPI HYPERFAST SOFT RECOVERY RECTIFIER

Rev.1.1

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
- ✧ Hyperfast recovery time and soft recovery characteristics
- ✧ Low recovery loss
- ✧ Applications for continuous current mode (CCM) power factor correction (PFC), active PFC in air conditioner, and half bridge full bridge switched-mode power supplies



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°C case temperature unless otherwise specified.)

Parameter	Symbol	JECR3006SL	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
Maximum average forward current $T_{mb} \leq 115^{\circ}\text{C}$, square-wave pulse, $\delta=0.5$	$I_{F(AV)}$	30	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	270	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	300	A
Junction temperature and storage temperature range	T_j, T_{stg}	-55 to +175	$^{\circ}\text{C}$

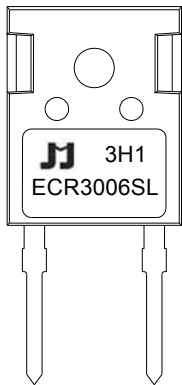
ELECTRICAL CHARACTERISTICS(Rating at 25°C case temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage @ $I_F=30A$	$T_j=25^{\circ}C$	V_F	-	2.00	2.75	V
	$T_j=150^{\circ}C$		-	1.38	1.80	
Maximum DC reverse current at rated DC blocking voltage	$T_j=25^{\circ}C$	I_R	-	-	5	μA
	$T_j=150^{\circ}C$		-	-	400	
Reverse recovery time	$I_F=1A, V_R=30V, di/dt=200A/\mu s, T_j=25^{\circ}C$	t_{rr}	-	18	22	ns
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=25^{\circ}C$		-	35	-	
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=125^{\circ}C$		-	70	-	
	$I_F=30A, V_R=400V, di/dt=500A/\mu s, T_j=25^{\circ}C$		-	29	-	
Peak reverse recovery current	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=25^{\circ}C$	I_{RM}	-	3.5	-	A
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=125^{\circ}C$		-	7.6	-	
Recovered charge	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=25^{\circ}C$	Q_r	-	50	-	nC
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_j=125^{\circ}C$		-	280	-	

THERMAL RESISTANCES

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

MARKING



ECR	EPI Hyperfast Recovery Rectifier
30	$I_{F(AV)}=30A$
06	$V_{RRM}:600V$
SL	Package:TO-247J-2L

xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

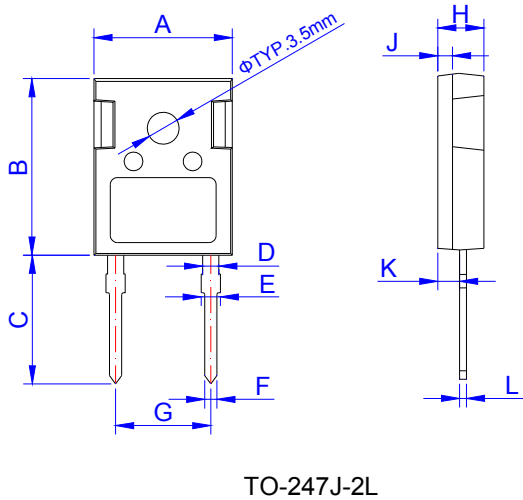
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION

J	E	C	R	30	06	SL
JIEJIE Microelectronics	Epi Hyperfast	Rectifier		$I_{F(AV)}=30A$	$V_{RRM}:600V$	Package:TO-247J-2L

PACKAGE MECHANICAL DATA



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	2,250

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

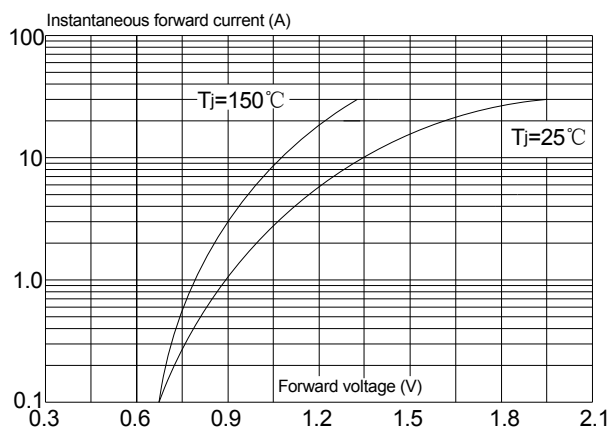


FIG.2: Typical reverse characteristics

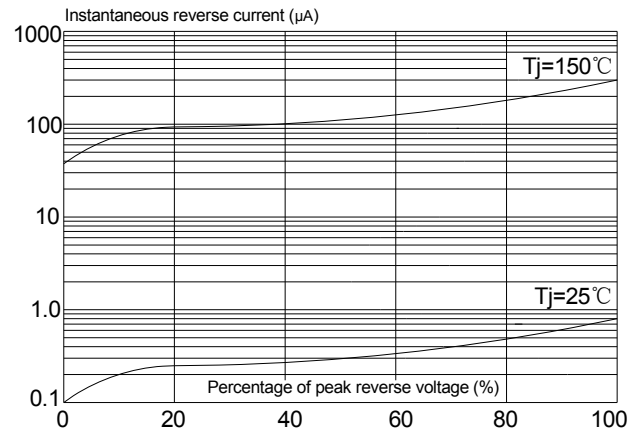


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

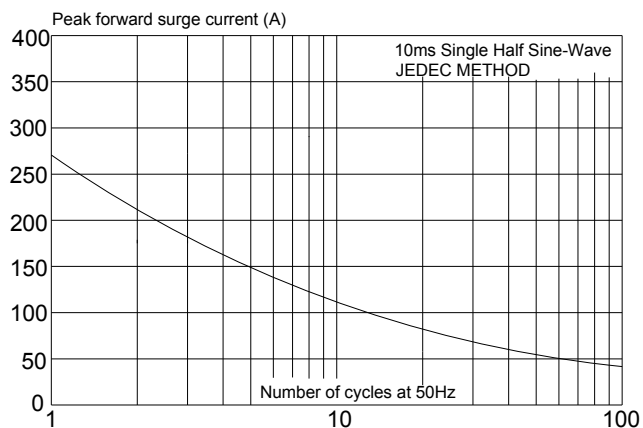


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

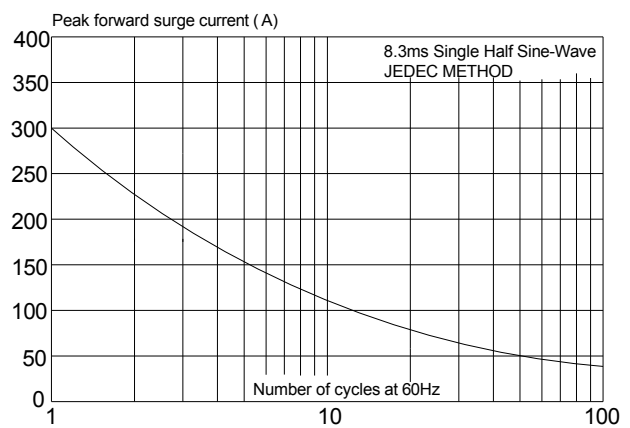


FIG.5: Forward current derating curve

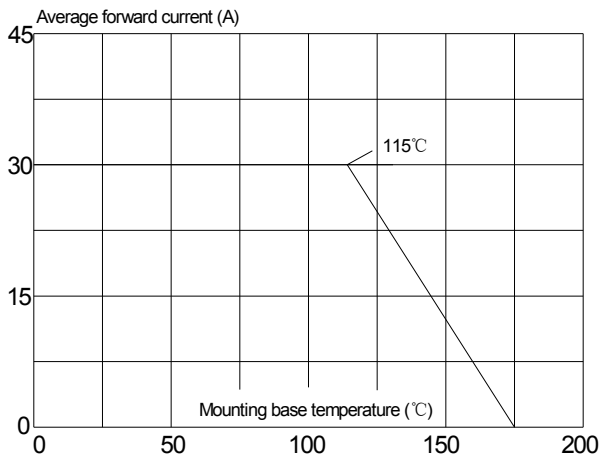


FIG.6: Reverse recovery definitions

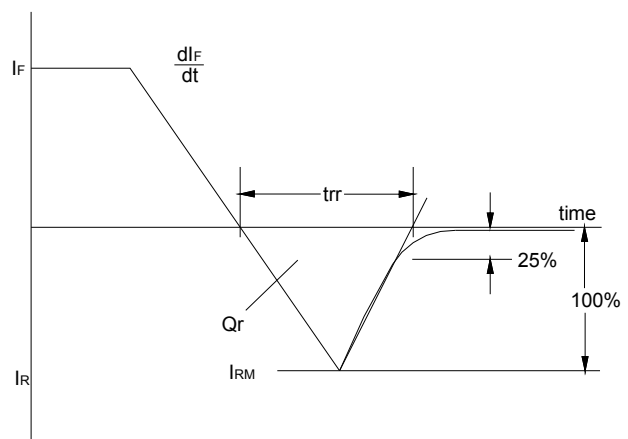


FIG.7: Forward power dissipation vs. average forward current (square waveform)

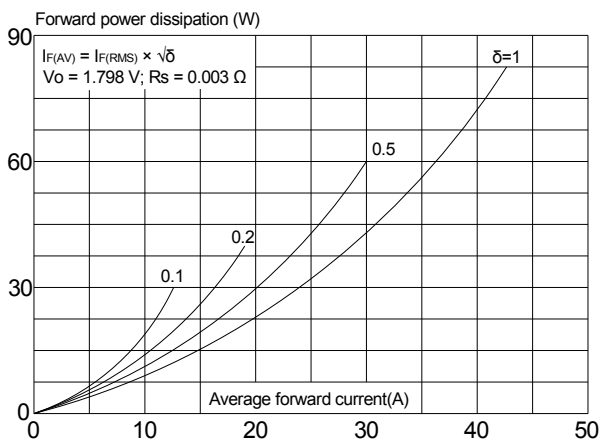
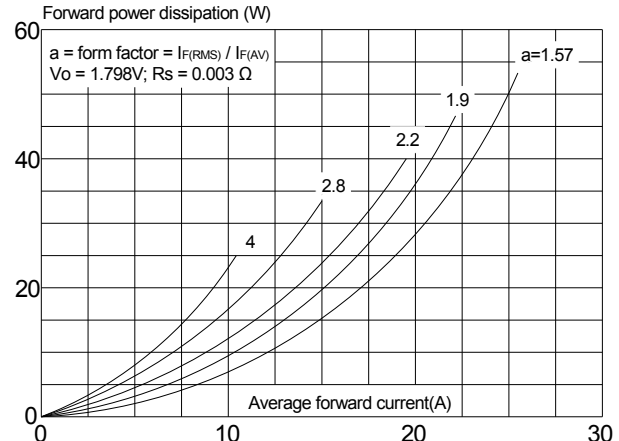


FIG.8: Forward power dissipation vs. average forward current (sinusoidal waveform)



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