



JPCR10012SL

EPI PLANAR HYPERFAST SOFT RECOVERY RECTIFIER

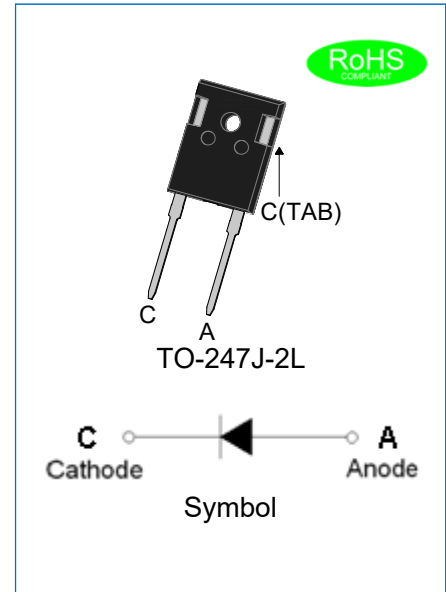
Rev.1.0

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
- ✧ 5th Generation soft fast recovery characteristics
- ✧ Epitaxial planar technology
- ✧ 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°C ambient temperature unless otherwise specified.)

Parameter	Symbol	JPCR10012SL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1200	V
Maximum RMS voltage	V_{RMS}	840	V
Maximum DC blocking voltage	V_{DC}	1200	V
Average forward current at $T_C=90^\circ\text{C}$	$I_{F(AV)}$	100	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	800	A
Junction temperature and storage temperature range	T_j, T_{stg}	-55 to +175	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	
Forward voltage	V_F	-	$I_F=100\text{A}, T_j=25^\circ\text{C}$	2.8	3.3	V
			$I_F=100\text{A}, T_j=150^\circ\text{C}$	1.9	-	
Reverse current	I_R	-	$V_R=1200\text{V}, T_j=25^\circ\text{C}$	-	20	μA
			$V_R=1200\text{V}, T_j=150^\circ\text{C}$	-	1000	μA
Reverse recovery time	t_{rr}	-	$I_F=1\text{A}, V_R=30\text{V},$ $di_F/dt=200\text{A}/\mu\text{s}, T_j=25^\circ\text{C}$	42	-	ns
			$I_F=50\text{A}, V_R=400\text{V},$ $di_F/dt=200\text{A}/\mu\text{s}, T_j=25^\circ\text{C}$	125	-	

ELECTRICAL CHARACTERISTICS

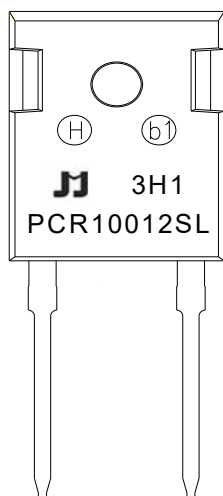
(Rating at 25°C ambient temperature unless otherwise specified, continued)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Reverse recovery time	$I_F=50A, V_R=400V, di_F/dt=200A/\mu s, T_j=125^\circ C$	t_{rr}	-	260	-	ns
Reverse recovery current	$I_F=50A, V_R=400V, di_F/dt=200A/\mu s, T_j=25^\circ C$	I_{RRM}	-	8	-	A
	$I_F=50A, V_R=400V, di_F/dt=200A/\mu s, T_j=125^\circ C$		-	20	-	
Reverse recovery charge	$I_F=50A, V_R=400V, di_F/dt=200A/\mu s, T_j=25^\circ C$	Q_{rr}	-	600	-	nC
	$I_F=50A, V_R=400V, di_F/dt=200A/\mu s, T_j=125^\circ C$		-	3000	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	-	0.3	°C/W

MARKING



PCR	Planar Hyperfast Recovery Rectifier
100	$I_{F(AV)}=100A$
12	$V_{RRM}:1200V$
SL	Package:TO-247J-2L

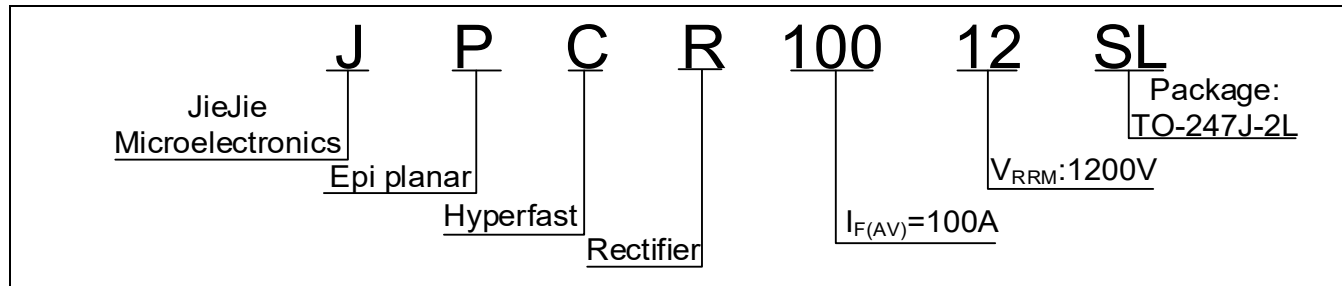
xH1: Month, 1/2/3~9/A/B/C

3x1:

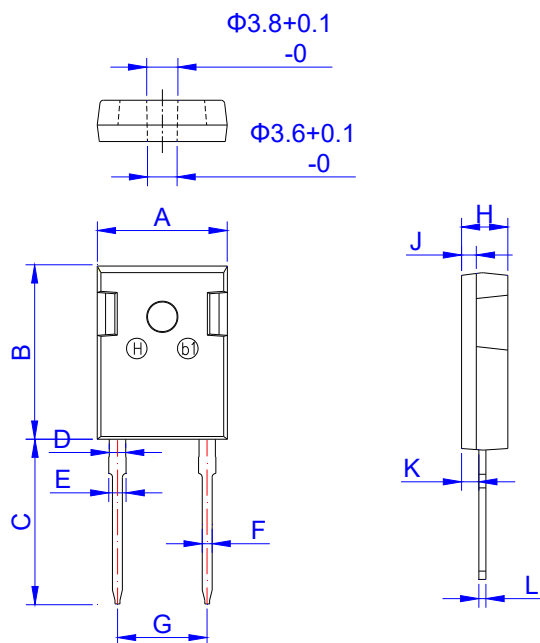
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION



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	10.50		11.30	0.413		0.445
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

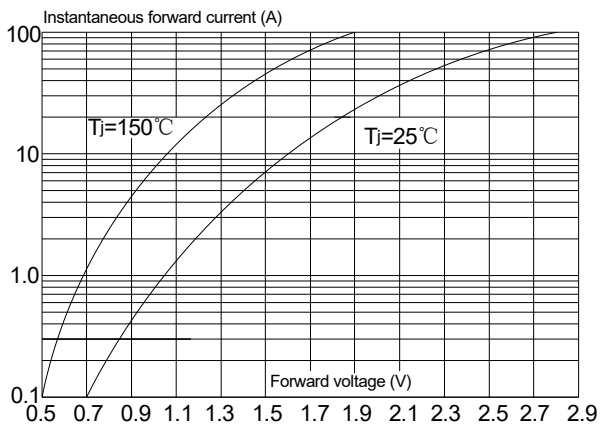


FIG.2 Typical reverse characteristics

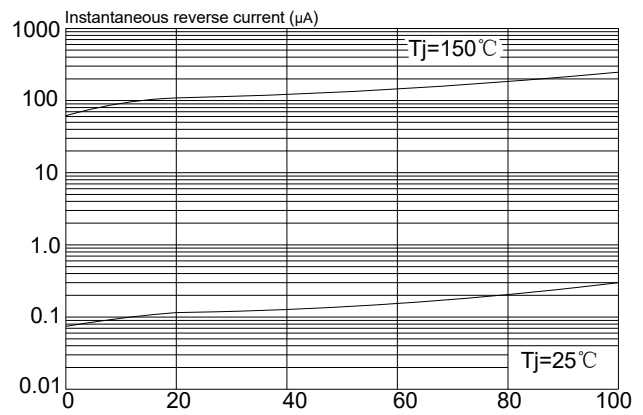


FIG.3 Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

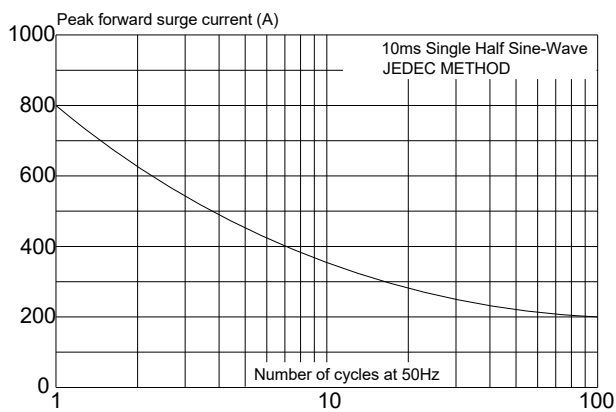


FIG.4: Forward current derating curve

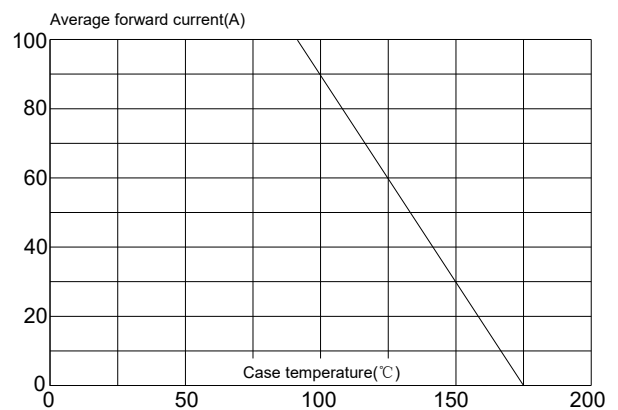
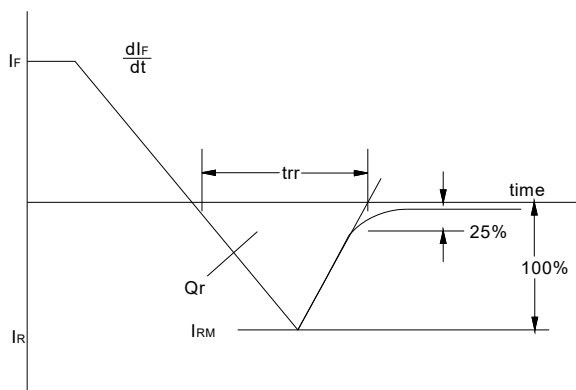


FIG.5: Reverse recovery definitions




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