



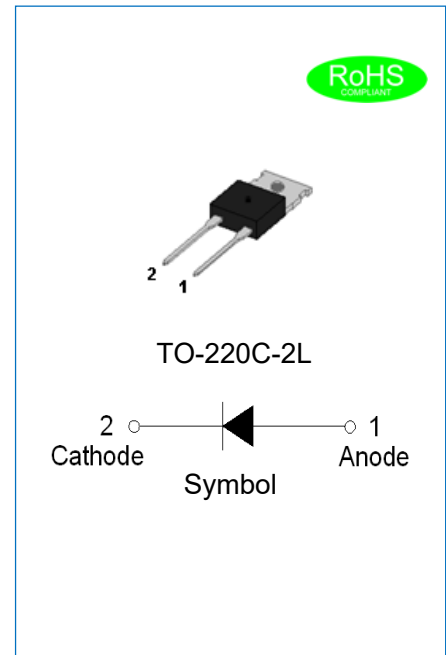
JPCR3012CL

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
- ✧ Low recovery loss
- ✧ Epitaxial planar technology
- ✧ 5th Generation soft fast recovery characteristics
- ✧ Output rectifiers in high-frequency switched-mode power supplies



MECHANICAL DATA

- ✧ Case: TO-220C-2L molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 2 gram

ABSOLUTE MAXIMUM RATING (Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	JPCR3012CL	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 $T_C=100^\circ\text{C}$	$I_{F(AV)}$	30	A
Peak forward surge current: 10ms 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	°C

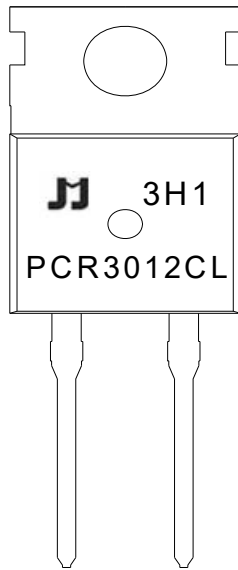
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=30A, T_j=25^\circ C$	V_F	-	2.8	3.3	V
	$I_F=30A, T_j=150^\circ C$		-	2.0	3.0	
Reverse current	$V_R=1200V, T_j=25^\circ C$	I_R	-	-	10	μA
	$V_R=1200V, T_j=150^\circ C$		-	-	400	
Reverse recovery time	$I_F=1A, V_R=30V,$ $di_F/dt=200A/\mu s, T_j=25^\circ C$	t_{rr}	-	28	-	ns
	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=25^\circ C$		-	90	-	
	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=125^\circ C$		-	215	-	
Reverse recovery current	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=25^\circ C$	I_{RRM}	-	5.2	-	A
	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=125^\circ C$		-	14	-	
Reverse recovery charge	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=25^\circ C$	Q_{rr}	-	285	-	nC
	$I_F=30A, V_R=400V,$ $di_F/dt=200A/\mu s, T_j=125^\circ C$		-	1780	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	-	1	$^\circ C/W$

MARKING



PCR	Planar Hyperfast Recovery Rectifier
30	$I_{F(AV)}=30A$
12	$V_{RRM}:1200V$
CL	Package: TO-220C-2L

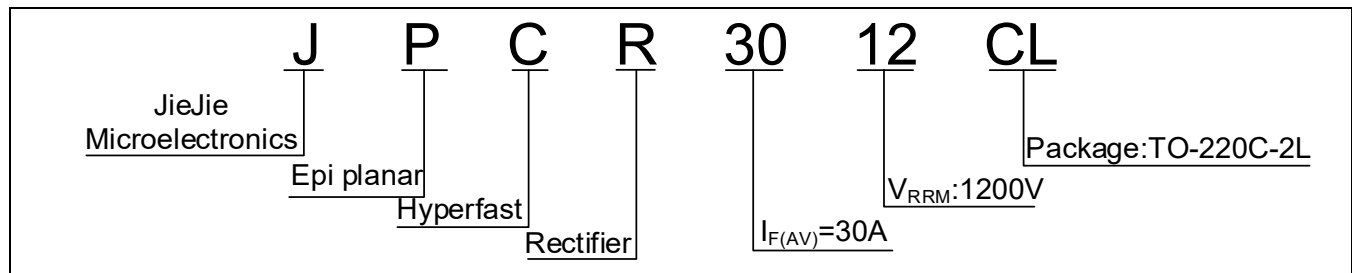
xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

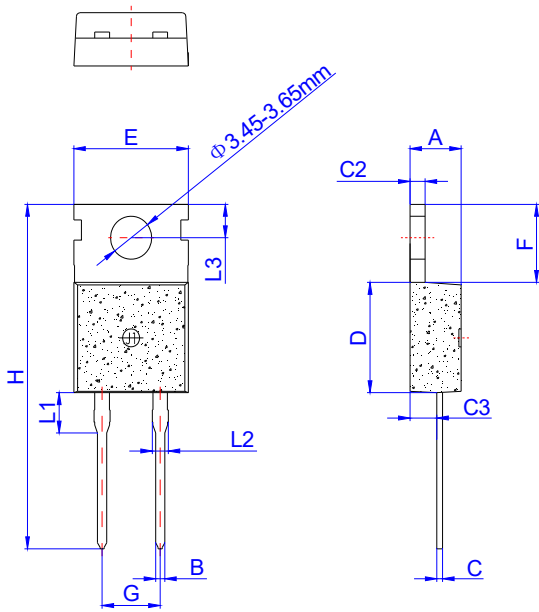
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		5.08			0.200	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

PACKAGE INFORMATION- TO-220C-2L

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	2	50	5,000

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

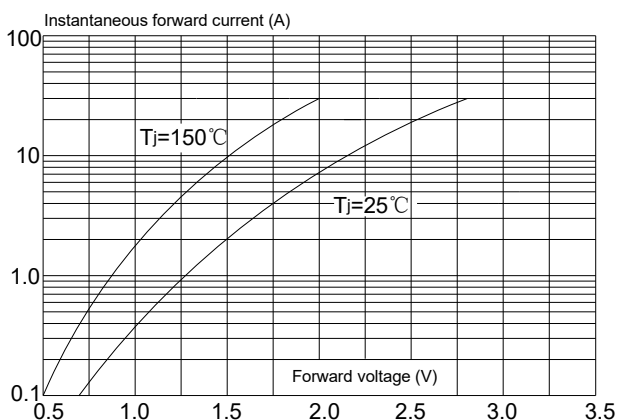


FIG.2: Typical reverse characteristics

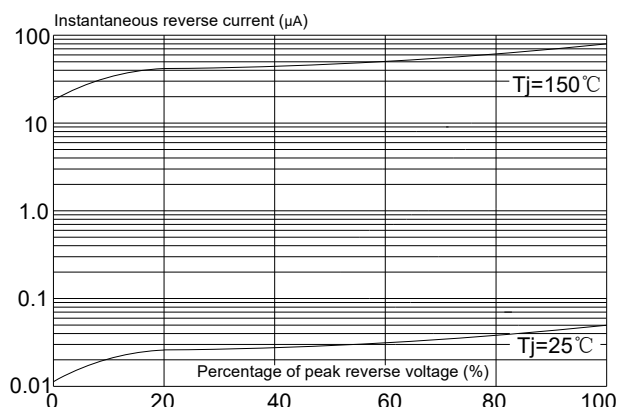


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

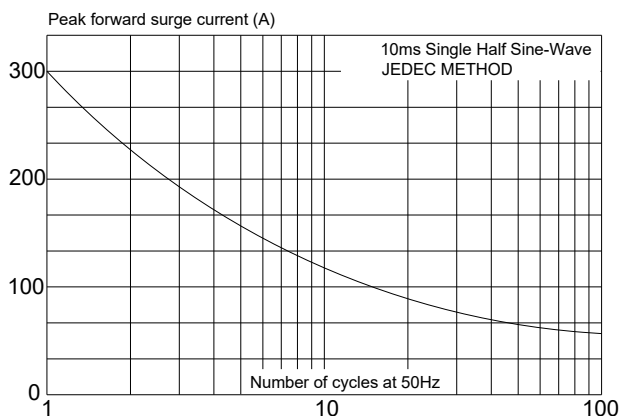


FIG.4: Forward current derating curve

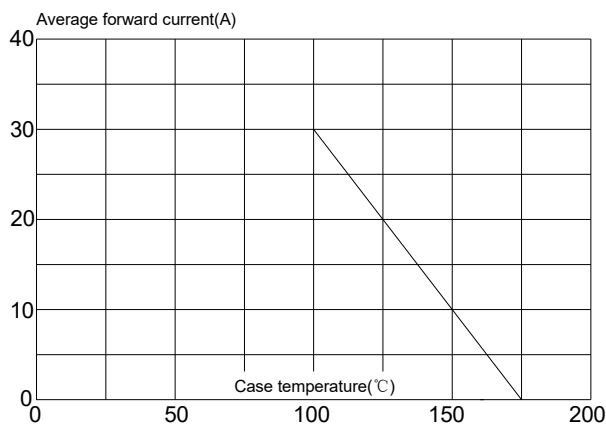
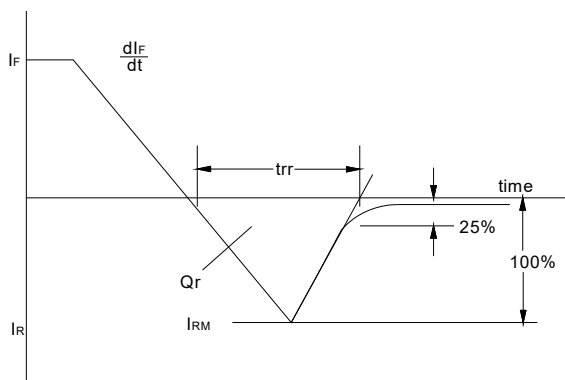


FIG.5: Reverse recovery definitions




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