



## JPCR0602V

### EPI PLANAR HYPERFAST SOFT RECOVERY RECTIFIER

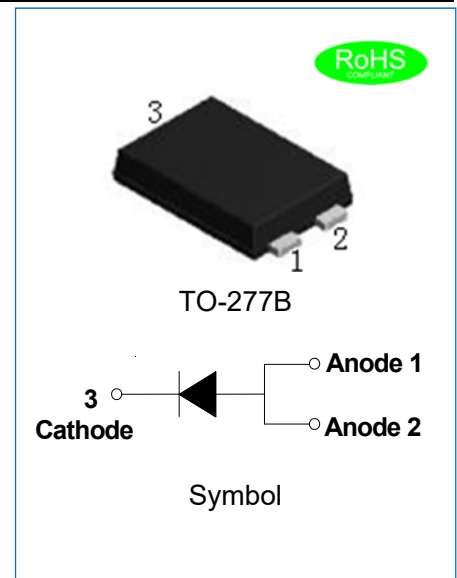
Rev.1.3

#### 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
- ✧ Epitaxial planar technology
- ✧ 5th Generation soft fast recovery characteristics
- ✧ Low recovery loss

#### MECHANICAL DATA

- ✧ Case: TO-277B molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002



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

Parameter	Symbol	JPCR0602V	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	V
Maximum RMS voltage	$V_{RMS}$	140	V
Maximum DC blocking voltage	$V_{DC}$	200	V
Average forward current at $T_{sp}=160^{\circ}C$	$I_{F(AV)}$	6	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	$I_{FSM}$	150	A
Operating junction and storage temperature range	$T_j, T_{stg}$	-55 to +175	°C

**ELECTRICAL CHARACTERISTICS**

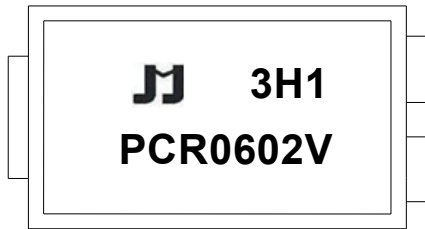
(Rating at 25°C ambient temperature unless otherwise specified, continued)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=6A, T_j=25^\circ C$	$V_F$	-	0.82	0.94	V
	$I_F=6A, T_j=125^\circ C$		-	0.65	0.8	
Reverse current	$V_R=200V, T_j=25^\circ C$	$I_R$	-	-	2	$\mu A$
	$V_R=200V, T_j=125^\circ C$		-	3	15	
Reverse recovery time	$I_F=1A, V_R=30V,$ $dl_F/dt=50A/\mu s, T_j=25^\circ C$	$t_{rr}$	-	26	-	ns
	$I_F=0.5A, I_R=1A, I_{RR}=0.25A$		-	-	25	
	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=25^\circ C$		-	19	-	
	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=125^\circ C$		-	33	-	
Reverse recovery current	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=25^\circ C$	$I_{RRM}$	-	2.9	-	A
	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=125^\circ C$		-	5.8	-	
Reverse recovery charge	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=25^\circ C$	$Q_{rr}$	-	29	-	nC
	$I_F=6A, V_R=200V,$ $dl_F/dt=200A/\mu s, T_j=125^\circ C$		-	100	-	

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	85	-	$^\circ C/W$
$R_{th(j-sp)}$	Thermal resistance from junction to solder pad	-	2.2	3	$^\circ C/W$

MARKING



PCR	Planar Hyperfast Recovery Rectifier
06	$I_{F(AV)}=6A$
02	$V_{RRM}:200V$
V	Package:TO-277B

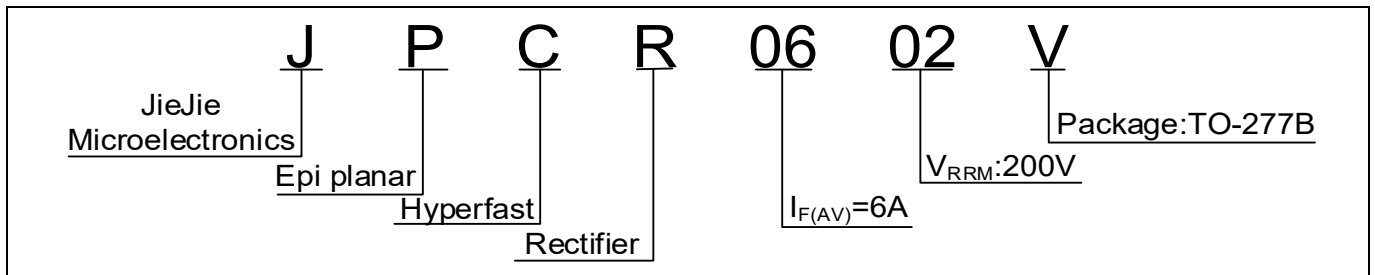
xH1: Month, 1/2/3~9/A/B/C

3x1:

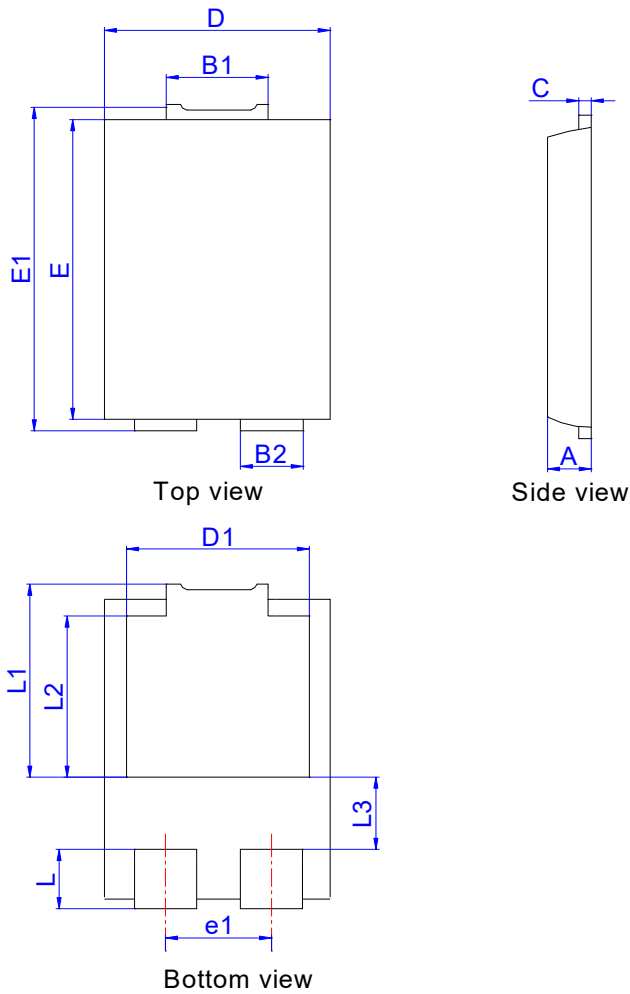
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION



**PACKAGE MECHANICAL DATA**



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
E1	6.40	6.60	0.252	0.260
E	5.60	5.80	0.220	0.228
D	4.10	4.30	0.161	0.169
B1	1.70	1.90	0.067	0.075
B2	0.80	1.00	0.031	0.039
A	1.05	1.20	0.041	0.047
C	0.30	0.40	0.012	0.016
L	0.85	1.10	0.033	0.043
L1	4.20	4.40	0.165	0.173
L2	3.52Typ.		0.139Typ.	
L3	1.10	1.40	0.043	0.055
D1	3.00	3.30	0.118	0.130
e1	1.86Typ.		0.073Typ.	

**PACKAGE INFORMATION-TO-277B**

PART No.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
JPCR0602V	5,000	80,000	13 inch reel pack

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

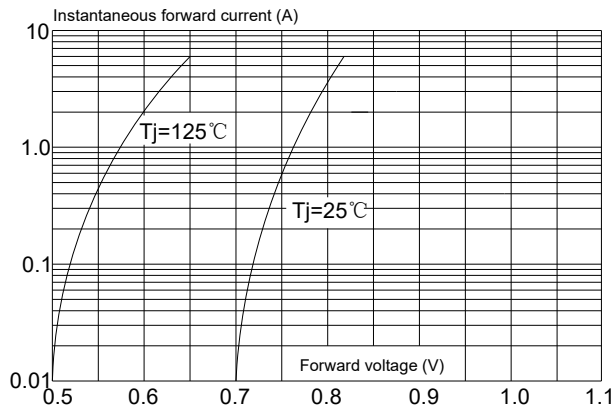


FIG.2: Typical reverse characteristics

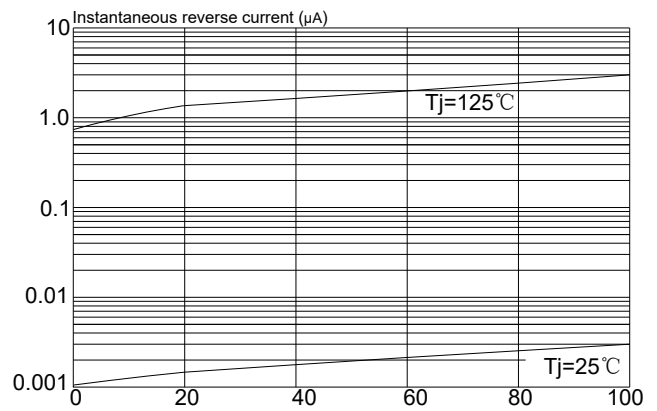


FIG.3: Maximum non-repetitive peak forward surge current

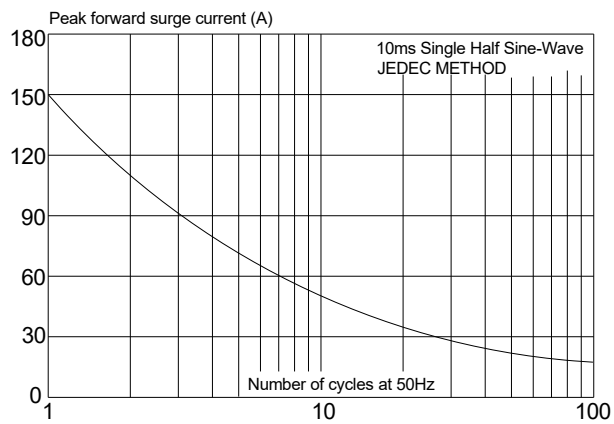


FIG.4: Forward current derating curve

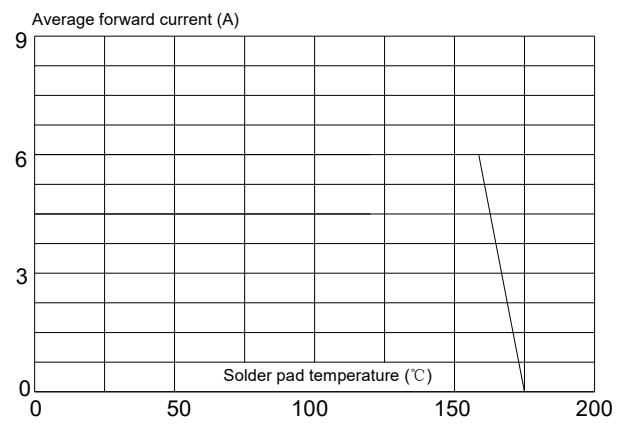
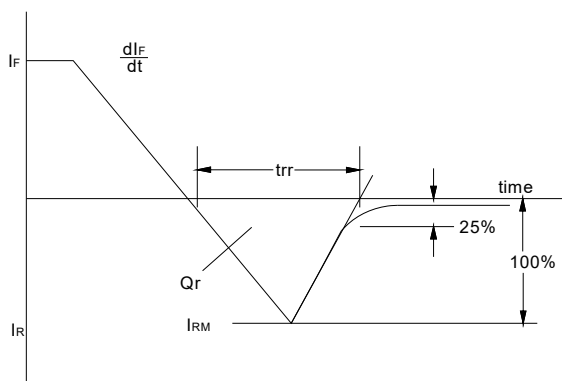


FIG.5: Reverse recovery definitions




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