



JPCR1003KW

EPI PLANAR HYPERFAST SOFT RECOVERY RECTIFIER

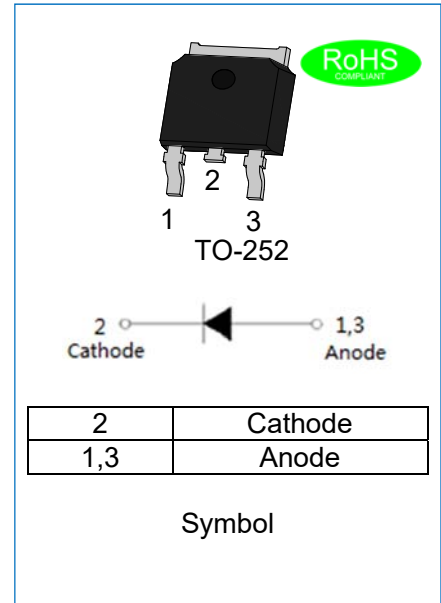
Rev.1.1

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

MECHANICAL DATA

- ✧ Case: TO-252 molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight:0.329 gram



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

Parameter	Symbol	JPCR1003KW	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	300	V
Maximum RMS voltage	V_{RMS}	210	V
Maximum DC blocking voltage	V_{DC}	300	V
Average forward current at $T_C=125^\circ\text{C}$	$I_{F(AV)}$	10	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	150	A
Junction temperature and storage temperature range	T_j, T_{stg}	-55 to +175	°C

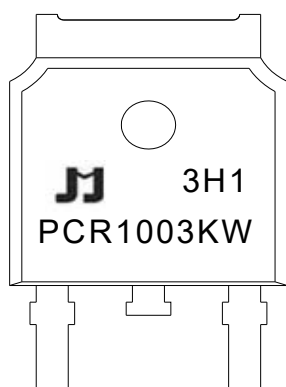
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=10A, T_J=25^\circ C$	V_F	-	1.05	1.2	V
	$I_F=10A, T_J=150^\circ C$		-	-	1.1	
Reverse current	$V_R=300V, T_J=25^\circ C$	I_R	-	-	5	μA
	$V_R=300V, T_J=150^\circ C$		-	-	200	
Reverse recovery time	$I_F=1A, V_R=30V,$ $di/dt=200A/\mu s, T_J=25^\circ C$	t_{rr}	-	17	25	ns
	$I_F=10A, V_R=200V,$ $di/dt=200A/\mu s, T_J=25^\circ C$		-	26	-	
	$I_F=10A, V_R=200V,$ $di/dt=200A/\mu s, T_J=125^\circ C$		-	44	-	
Peak reverse recovery current	$I_F=10A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_J=25^\circ C$	I_{RM}	-	3.4	-	A
	$I_F=10A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_J=125^\circ C$		-	7	-	
Recovered charge	$I_F=10A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_J=25^\circ C$	Q_r	-	50	-	nC
	$I_F=10A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_J=125^\circ C$		-	160	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	-	5	$^\circ C/W$

MARKING



PCR	Planar Hyperfast Recovery Rectifier
10	$I_{F(AV)}=10A$
03	$V_{RRM}:300V$
KW	Package: TO-252

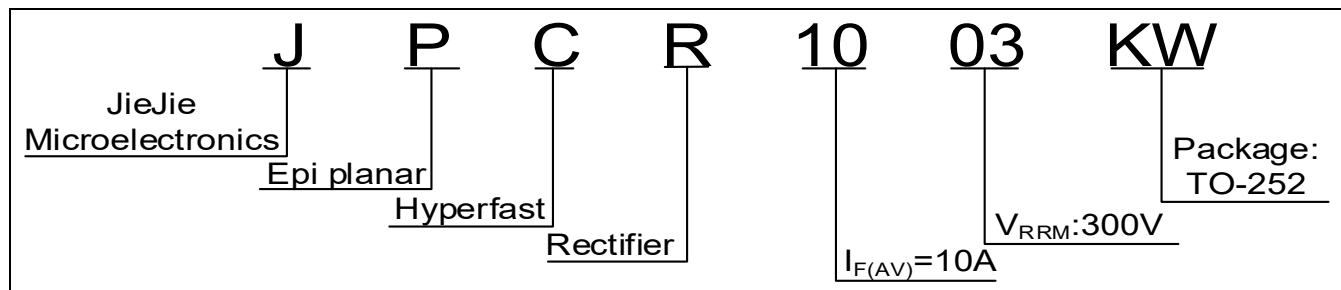
$\underline{x}H1$: Month, 1/2/3~9/A/B/C

$3\underline{x}1$:

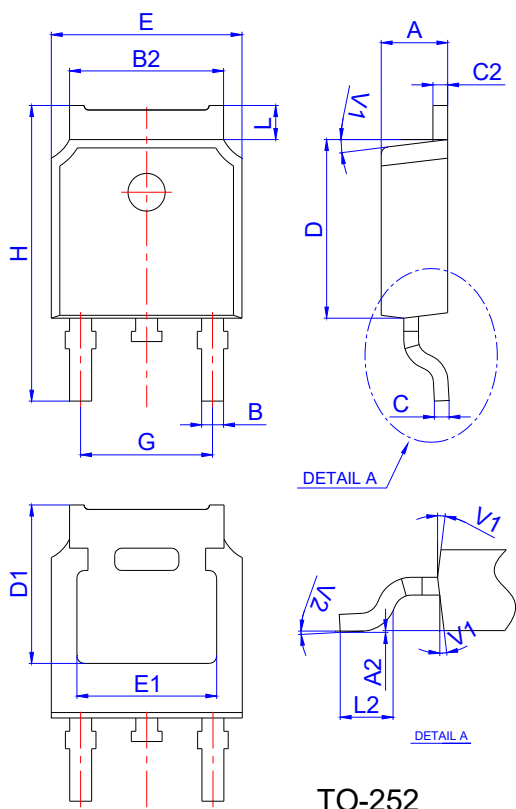
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

$3H\underline{x}$: Batch number

ORDERING INFORMATION

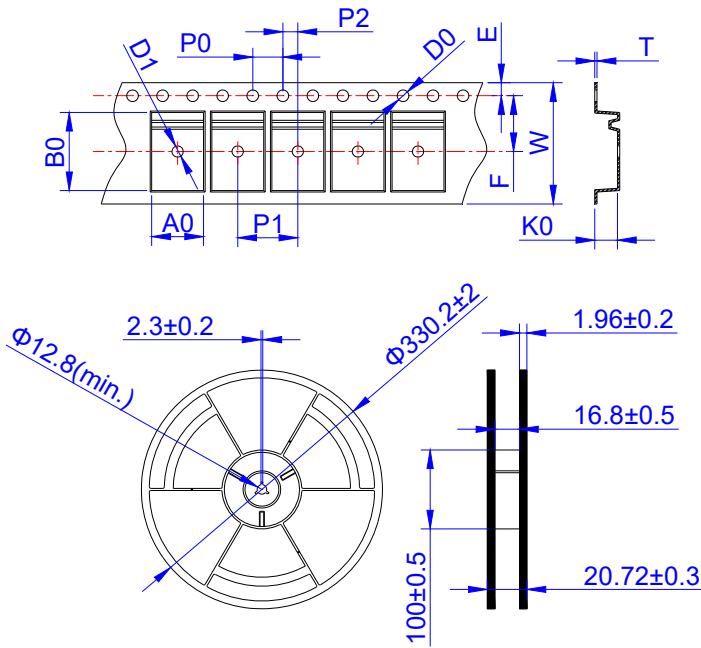


PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.15	0		0.006
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

REEL SPECIFICATION -TO-252



Ref.	Dimensions	
	Millimeters	Inches
W	Max:16.3	Max:0.642
E	1.75±0.10	0.069±0.004
F	7.50±0.10	0.295±0.004
D0	1.55±0.05	0.061±0.002
D1	Min:1.50	Min:0.059
P0	4.00±0.10	0.157±0.004
P1	8.00±0.10	0.315±0.004
P2	2.00±0.10	0.079±0.004
A0	6.90±0.10	0.272±0.004
B0	10.50±0.10	0.413±0.004
K0	2.70±0.10	0.106±0.004
T	0.30±0.05	0.012±0.002

OUTLINE	UNIT WEIGHT (g/PCS) TYP	REEL (PCS)	PER CARTON (PCS)	TAPE & REEL
TAPING	0.329	2,500	25,000	13inch

CHARACTERISTICS CURVE

FIG.1 Typical forward characteristics

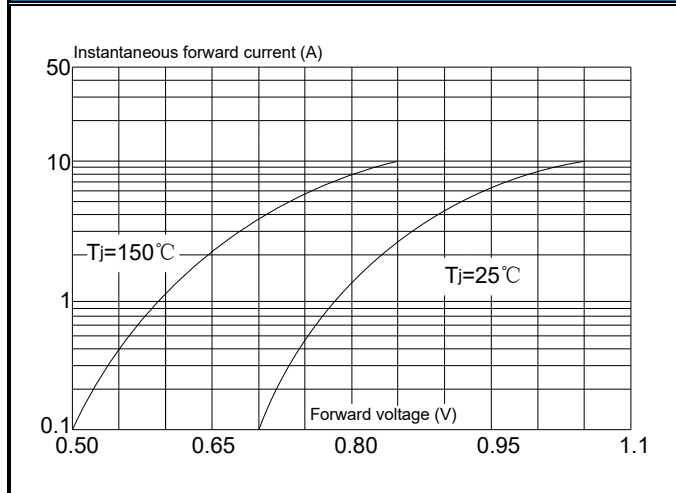


FIG.2 Typical reverse characteristics

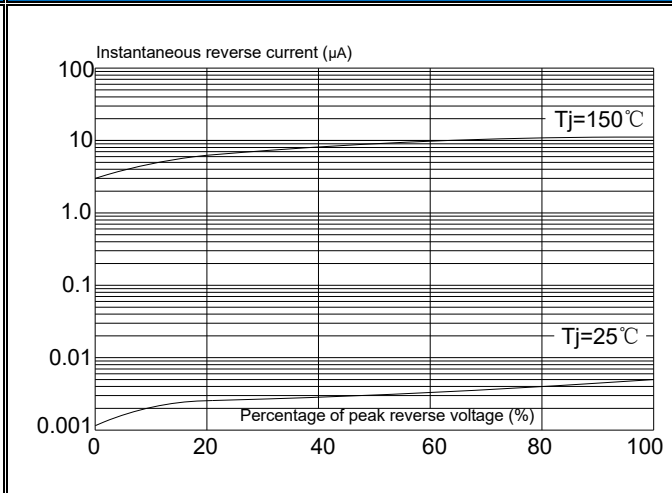


FIG.3: Maximum non-repetitive peak forward surge Current

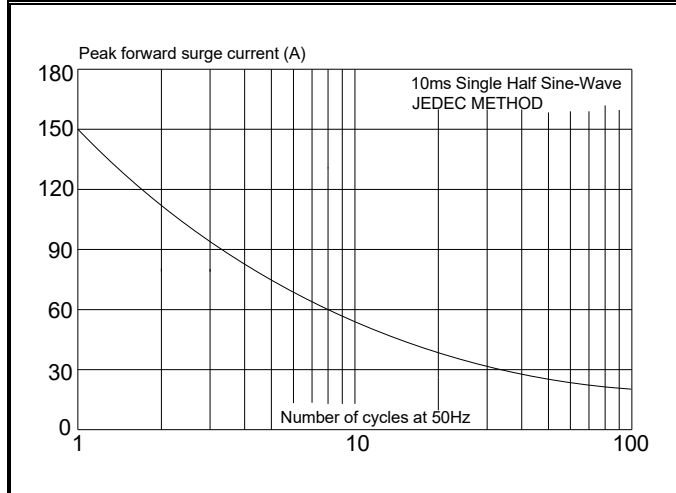


FIG.4: Forward current derating curve

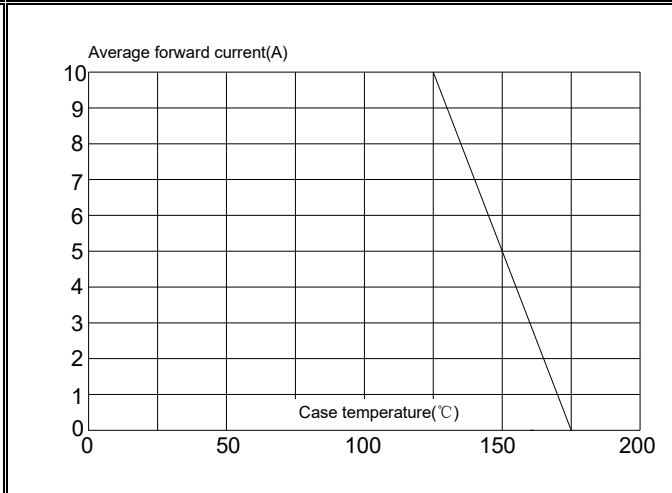
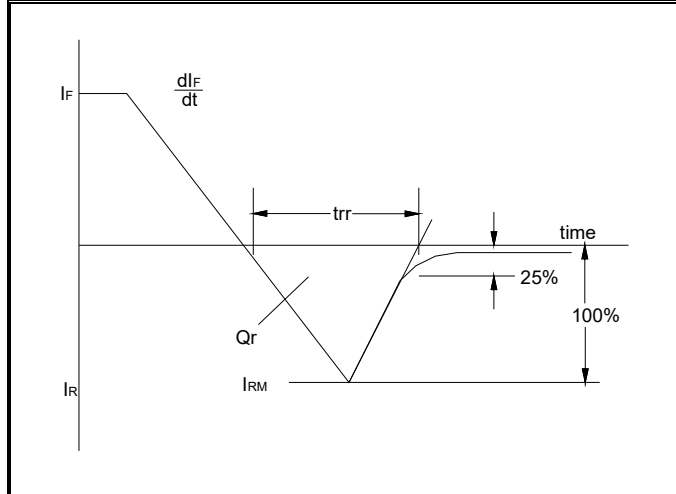


FIG.5: Reverse recovery definitions




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