



JPFR0812K

EPI PLANAR FAST SOFT RECOVERY RECTIFIER

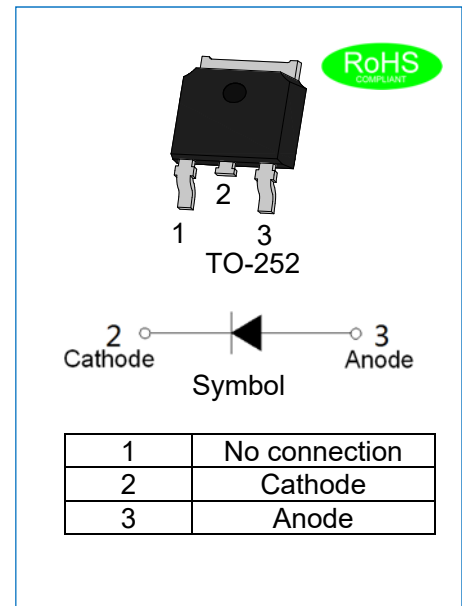
Rev.1.4

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
- ✧ Fast 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	JPFR0812K	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	1200	V
Maximum DC blocking voltage	V_{DC}	1200	V
Average forward current at $T_C=105^{\circ}\text{C}$	$I_{F(AV)}$	8	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	88	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load		80	
Junction temperature and storage temperature range	T_J, T_{stg}	-55 to +175	$^{\circ}\text{C}$

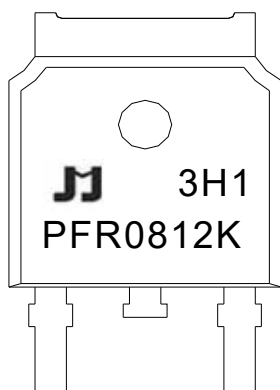
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=8A, T_J=25^{\circ}C$	V_F	-	1.7	2.2	V
	$I_F=8A, T_J=150^{\circ}C$		-	1.5	2	
Reverse current	$V_R=1200V, T_J=25^{\circ}C$	I_R	-	-	5	μA
	$V_R=1200V, T_J=150^{\circ}C$		-	-	200	
Reverse recovery time	$I_F=1A, V_R=30V,$ $di/dt=100A/\mu s, T_J=25^{\circ}C$	t_{rr}	-	-	50	ns
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=25^{\circ}C$		-	40	-	
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=125^{\circ}C$		-	80	-	
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=150^{\circ}C$		-	90	-	
Peak reverse recovery current	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=25^{\circ}C$	I_{RM}	-	9	-	A
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=125^{\circ}C$		-	14.5	-	
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=150^{\circ}C$		-	16	-	
Recovered charge	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=25^{\circ}C$	Q_r	-	200	-	nC
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=125^{\circ}C$		-	700	-	
	$I_F=8A, V_R=400V,$ $di/dt=500A/\mu s, T_J=150^{\circ}C$		-	850	-	

THERMAL RESISTANCES

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

MARKING



PFR	Planar Fast Recovery Rectifier
08	$I_{F(AV)}=8A$
12	$V_{RRM}:1200V$
K	Package: TO-252

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

3x1:

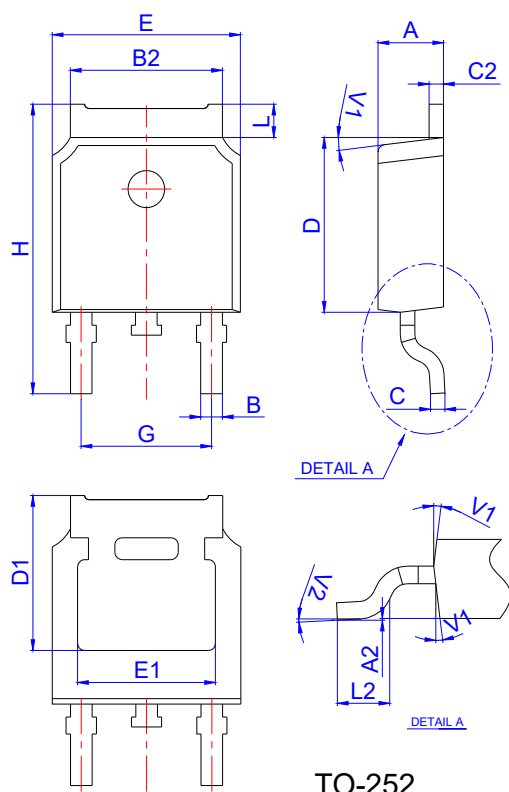
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION

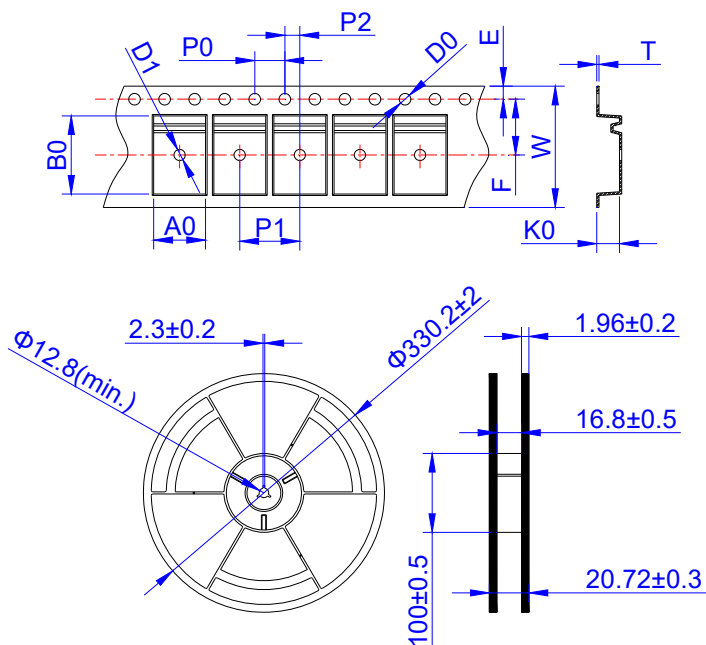
	<u>J</u>	<u>P</u>	<u>F</u>	<u>R</u>	<u>08</u>	<u>12</u>	<u>K</u>
JieJie Microelectronics	Epi planar	Fast Rectifier			$I_{F(AV)}=8A$	$V_{RRM}:1200V$	Package: TO-252

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	0.95		1.30	0.037		0.051
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

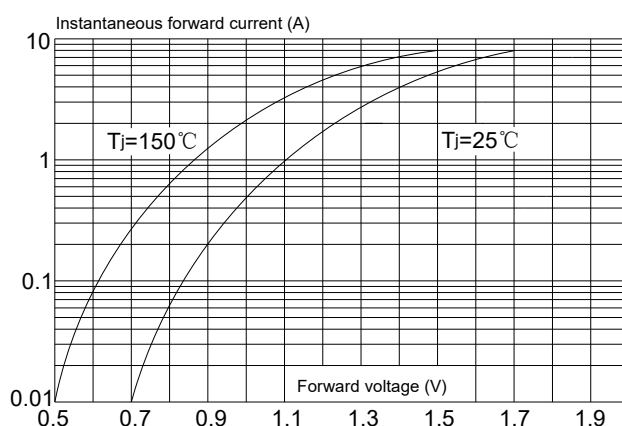


FIG.2 Typical reverse characteristics

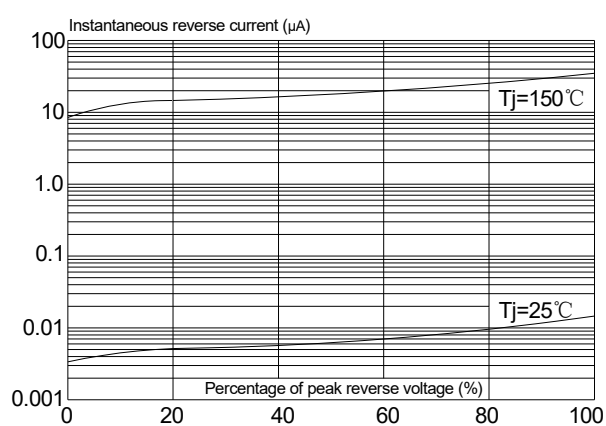


FIG.3 Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

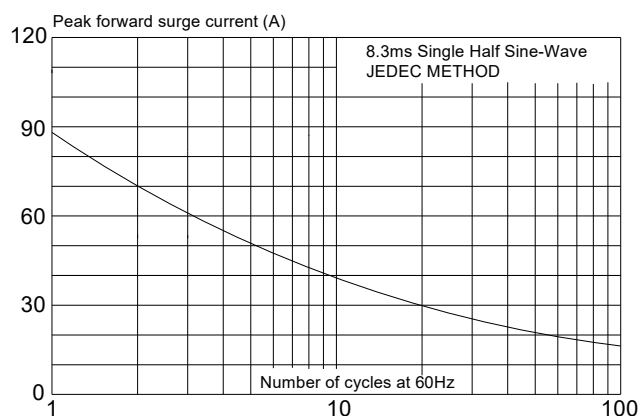


FIG.4 Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

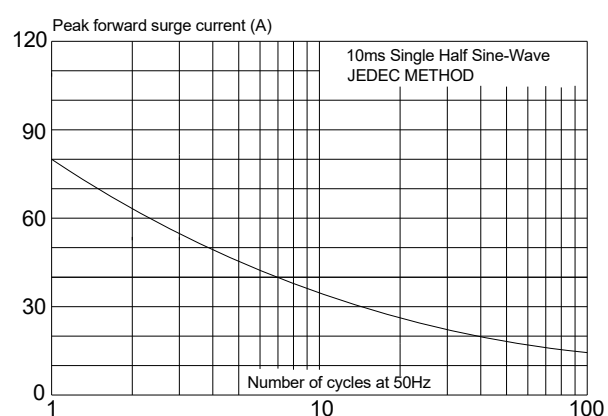


FIG.5 Forward current derating curve

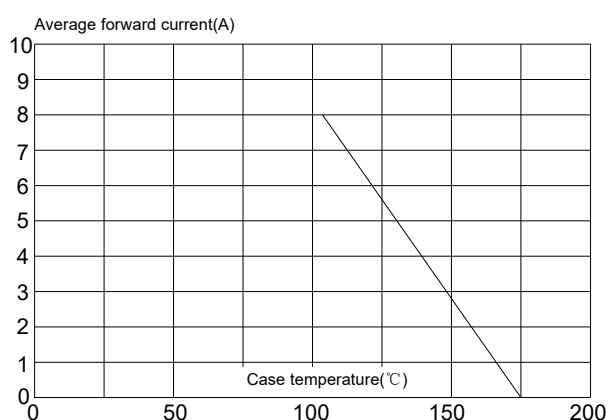
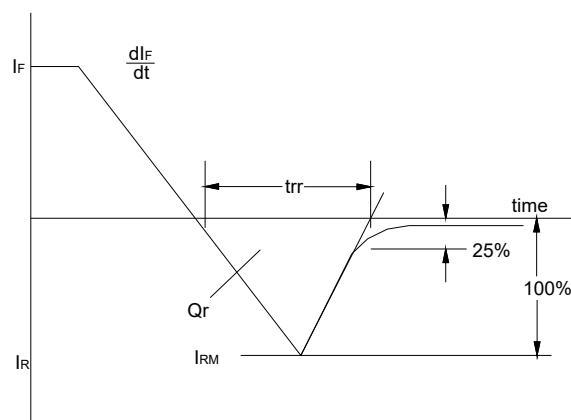


FIG.6 Reverse recovery definitions



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