



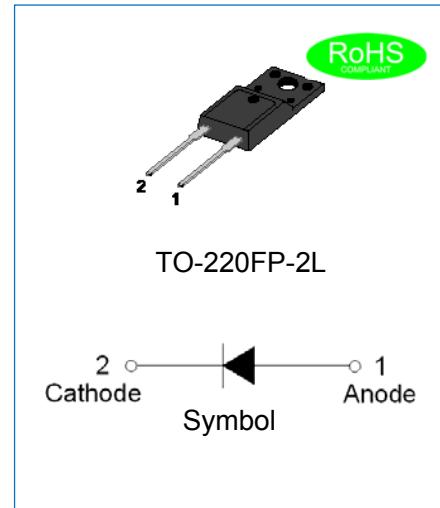
## JECR0506FPL

## EPI 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 and soft recovery characteristics
- ✧ Low recovery loss



## MECHANICAL DATA

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

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

Parameter	Symbol	JECR0506FPL		Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600		V
Maximum RMS voltage	V <sub>RMS</sub>	420		V
Maximum DC blocking voltage	V <sub>DC</sub>	600		V
Maximum average forward current $\delta=0.5$ , $T_h \leq 97^\circ\text{C}$ , square-wave pulse	I <sub>F(AV)</sub>	5		A
Maximum repetitive peak forward current $\delta=0.5, t_p=25\mu\text{s}, T_h \leq 97^\circ\text{C}$ , square-wave pulse	I <sub>FRM</sub>	10		A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	60		A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		65		
Junction temperature and storage temperature range	T <sub>j</sub> , T <sub>stg</sub>	-55 to +175		°C

## ISOLATION CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V <sub>isol(RMS)</sub>	RMS isolation voltage	50Hz ≤ f ≤ 60Hz; RH ≤ 65%; from all pins to external heatsink; sinusoidal waveform; clean and dust free	-	-	2500	V
C <sub>isol</sub>	Isolation capacitance	from cathode to external heatsink	-	10	-	pF

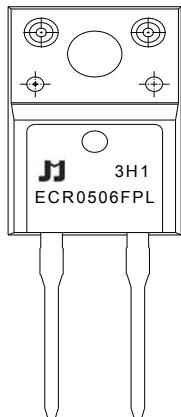
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C case temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=5A, T_j=25^\circ C$	$V_F$	-	2.5	3.3	V
	$I_F=5A, T_j=150^\circ C$		-	1.35	2.1	
Maximum DC reverse current at rated DC blocking voltage	$T_j=25^\circ C$	$I_R$	-	-	5	$\mu A$
	$T_j=150^\circ C$		-	-	200	
Reverse recovery time	$I_F=1A, V_R=30V, di/dt=200A/\mu s, T_j=25^\circ C$	$t_{rr}$	-	11	-	ns
	$I_F=5A, V_R=200V, di/dt=200A/\mu s, T_j=25^\circ C$		-	23	-	
	$I_F=5A, V_R=200V, di/dt=200A/\mu s, T_j=125^\circ C$		-	28	-	
	$I_F=5A, V_R=400V, di/dt=500A/\mu s, T_j=25^\circ C$		-	13	25	
Peak reverse recovery current	$I_F=5A, V_R=200V, di/dt=200A/\mu s, T_j=25^\circ C$	$I_{RM}$	-	1.7	-	A
	$I_F=5A, V_R=200V, di/dt=200A/\mu s, T_j=125^\circ C$		-	3.2	-	
Recovered charge	$I_F=5A, V_R=200V, di/dt=200A/\mu s, T_j=25^\circ C$	$Q_r$	-	19	-	nC
	$I_F=15A, V_R=100V, di/dt=200A/\mu s, T_j=25^\circ C$		-	45	-	

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-h)}$	Thermal resistance from junction to heatsink	-	-	6.5	°C/W
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	55	-	°C/W

## MARKING



ECR	EPI Hyperfast Recovery Rectifier
05	$I_{F(AV)}=5A$
06	$V_{RRM}:600V$
FPL	Package:TO-220FP-2L

3H1: Month, 1、2、3 ~ 9、A、B、C3x1:

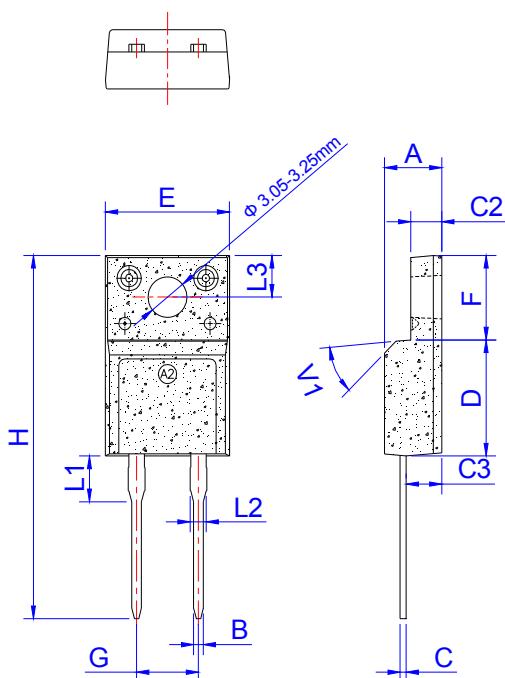
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

## ORDERING INFORMATION

<u>J</u>	<u>E</u>	<u>C</u>	<u>R</u>	<u>05</u>	<u>06</u>	<u>FPL</u>	Package: TO-220FP-2L
JIEJIE Microelectronics	Epi Hyperfast Rectifier						$V_{RRM}:600V$ $I_{F(AV)}=5A$

## PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		5.08			0.200	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

## PACKAGE INFORMATION-TO-220FP-2L

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

## CHARACTERISTICS CURVE

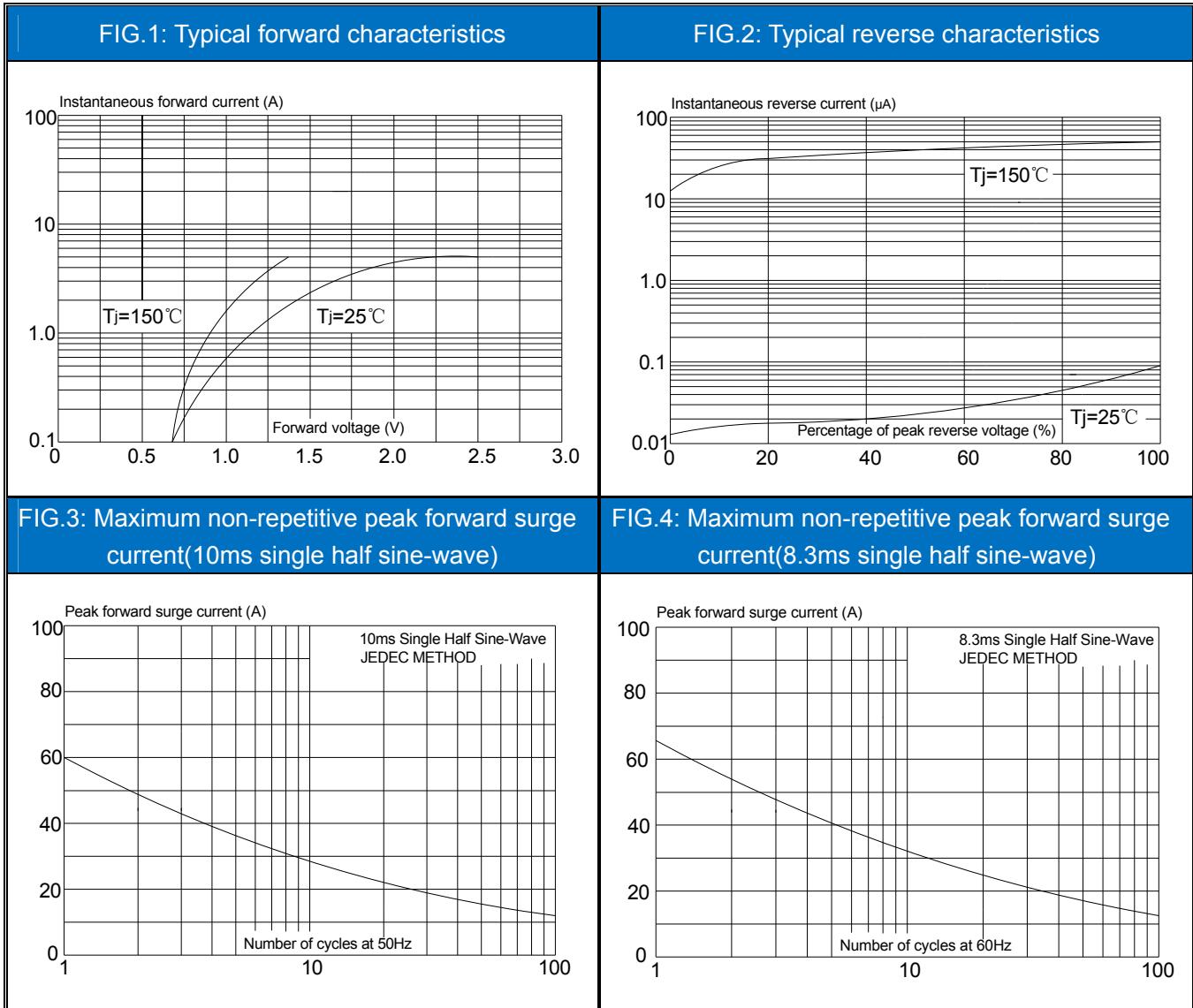


FIG.5: Forward current derating curve

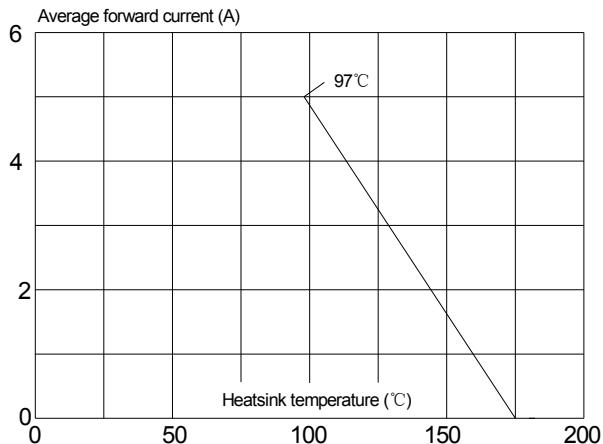
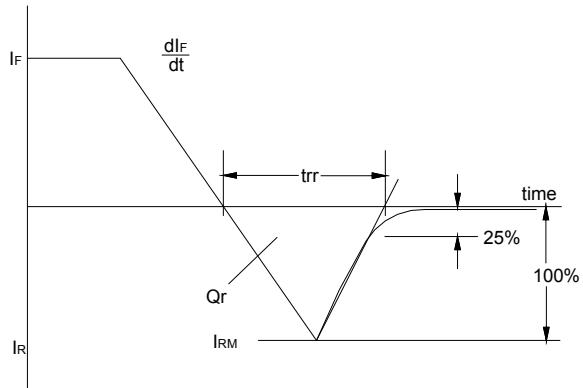


FIG.6: Reverse recovery definitions



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