

**JECR2006FPL****EPI HYPERFAST RECOVERY RECTIFIER**

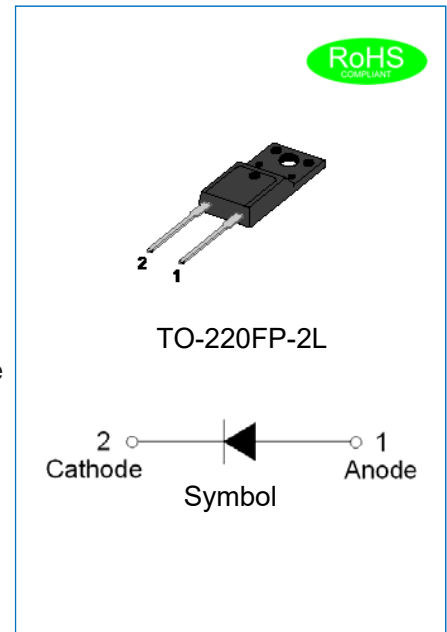
Rev.1.4

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
- ✧ Hyperfast recovery time and soft recovery characteristics
- ✧ Low recovery loss
- ✧ Applications for continuous current mode (CCM) power factor correction (PFC), active PFC in air conditioner, half-bridge/full-bridge switched-mode power supplies

MECHANICAL DATA

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

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

Parameter	Symbol	JECR2006FPL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum DC blocking voltage	V_{DC}	600	V
Average forward current at $T_h=51^{\circ}\text{C}$	$I_{F(AV)}$	20	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	200	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		220	
Junction temperature and storage temperature range	T_j, T_{stg}	-55 to +150	$^{\circ}\text{C}$

ISOLATION CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{isol(RMS)}$	RMS isolation voltage	50Hz \leq f \leq 60Hz, RH \leq 65%, from all pins to external heatsink, sinusoidal waveform, clean and dust free	-	-	2500	V
C_{isol}	Isolation capacitance	from cathode to external heatsink	-	10	-	pF

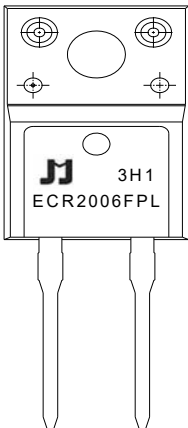
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=20A, T_J=25^{\circ}C$	V_F	-	1.8	2.5	V
	$I_F=20A, T_J=150^{\circ}C$		-	1.2	1.6	
Reverse current	$V_R=600V, T_J=25^{\circ}C$	I_R	-	-	5	μA
	$V_R=600V, T_J=150^{\circ}C$		-	-	300	
Reverse recovery time	$I_F=1A, V_R=30V,$ $di/dt=50A/\mu s, T_J=25^{\circ}C$	t_{rr}	-	-	35	ns
	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=25^{\circ}C$		-	32	-	
	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=125^{\circ}C$		-	55	-	
Peak reverse recovery current	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=25^{\circ}C$	I_{RM}	-	2.9	-	A
	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=125^{\circ}C$		-	8	-	
Recovered charge	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=25^{\circ}C$	Q_r	-	50	-	nC
	$I_F=20A, V_R=200V,$ $di/dt=200A/\mu s, T_J=125^{\circ}C$		-	220	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-h)}$	Thermal resistance from junction to heatsink	-	-	3.5	$^{\circ}C/W$
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	55	-	$^{\circ}C/W$

MARKING



ECR	EPI Hyperfast Recovery Rectifier
20	$I_{F(AV)}=20A$
06	$V_{RRM}:600V$
FPL	Package:TO-220FP-2L

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

3x1:

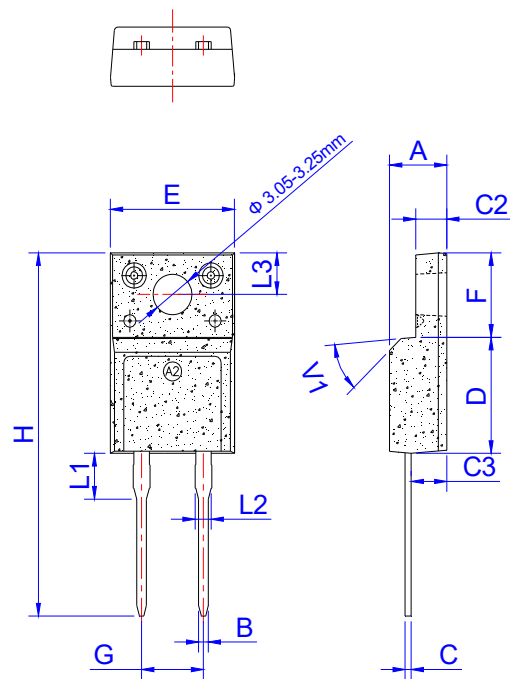
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION

JIEJIE Microelectronics	J	E	C	R	20	06	FPL	Package: TO-220FP-2L
		EPI				$V_{RRM}:600V$		
		Hyperfast			$I_{F(AV)}=20A$			
		Rectifier						

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.1: Typical forward characteristics

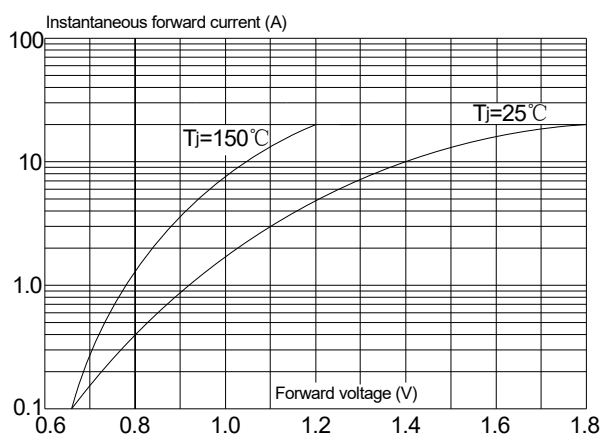


FIG.2: Typical reverse characteristics

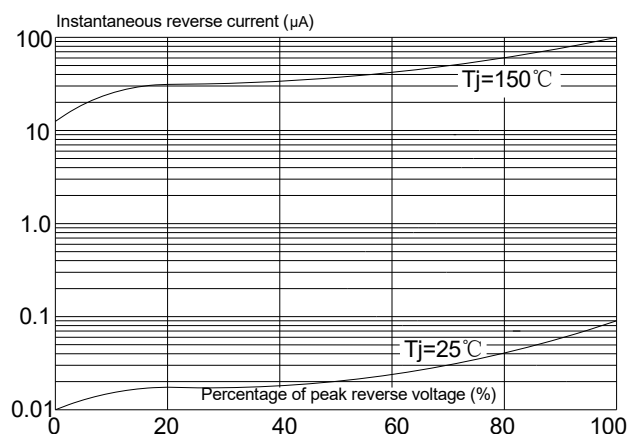


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

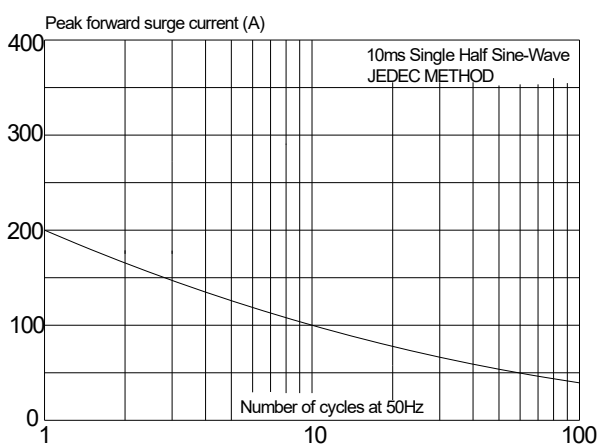


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

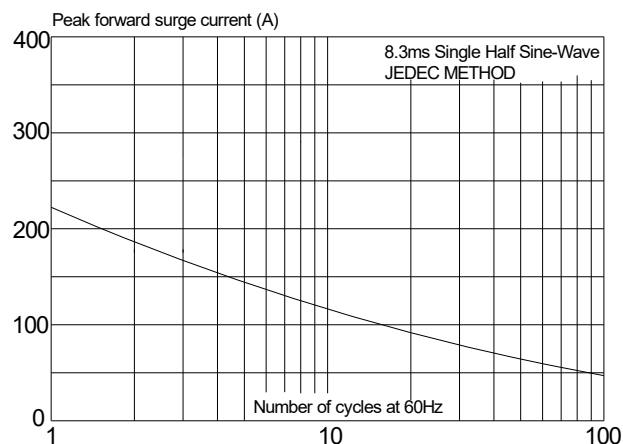


FIG.5: Forward current derating curve

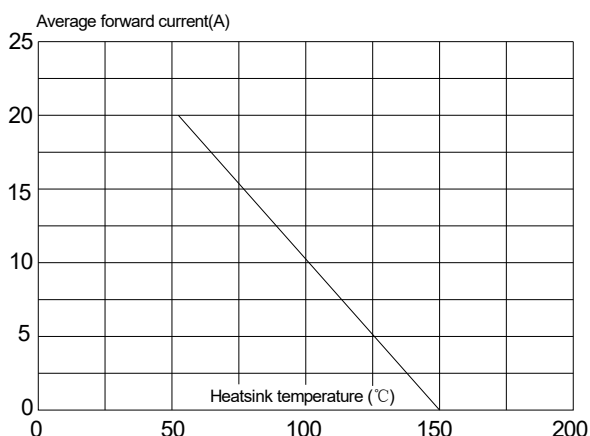
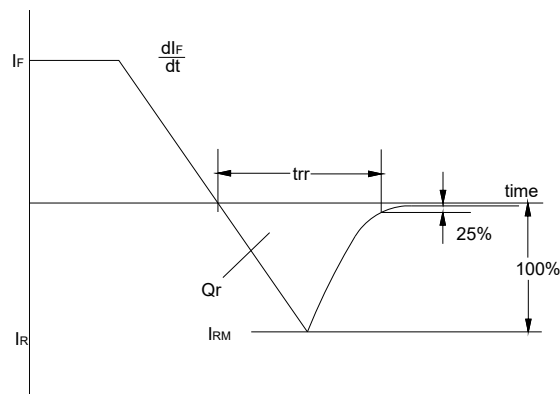


FIG.6: Reverse recovery definitions



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