

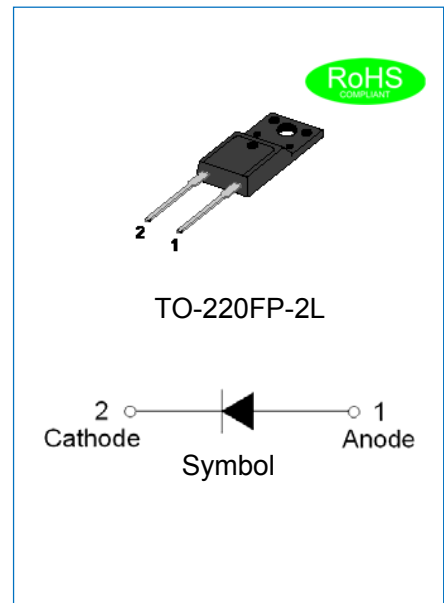


## JECR3006FPL EPI HYPERFAST SOFT RECOVERY RECTIFIER

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
- ✧ 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: 2 gram

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

Parameter	Symbol	JECR3006FPL	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	V
Maximum RMS voltage	$V_{RMS}$	420	V
Maximum DC blocking voltage	$V_{DC}$	600	V
Maximum average forward current $\delta=0.5, T_H \leq 51^\circ\text{C}$ , square-wave pulse	$I_{F(AV)}$	30	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 +175	°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

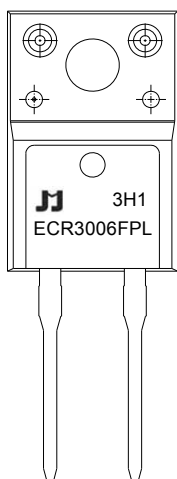
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=30A, T_J=25^\circ C$	$V_F$	-	2.0	2.75	V
	$I_F=30A, T_J=150^\circ C$		-	1.38	1.8	
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^\circ C$	$I_R$	-	-	5	$\mu A$
	$T_J=150^\circ C$		-	-	400	
Reverse recovery time	$I_F=1A, V_R=30V, di/dt=50A/\mu s, T_J=25^\circ C$	$t_{rr}$	-	-	35	ns
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^\circ C$		-	35	-	
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^\circ C$		-	70	-	
Peak reverse recovery current	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^\circ C$	$I_{RM}$	-	3.5	-	A
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^\circ C$		-	7.6	-	
Recovered charge	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^\circ C$	$Q_r$	-	50	-	nC
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^\circ C$		-	280	-	

**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
30	$I_{F(AV)}=30A$
06	$V_{RRM}:600V$
FPL	Package:TO-220FP-2L

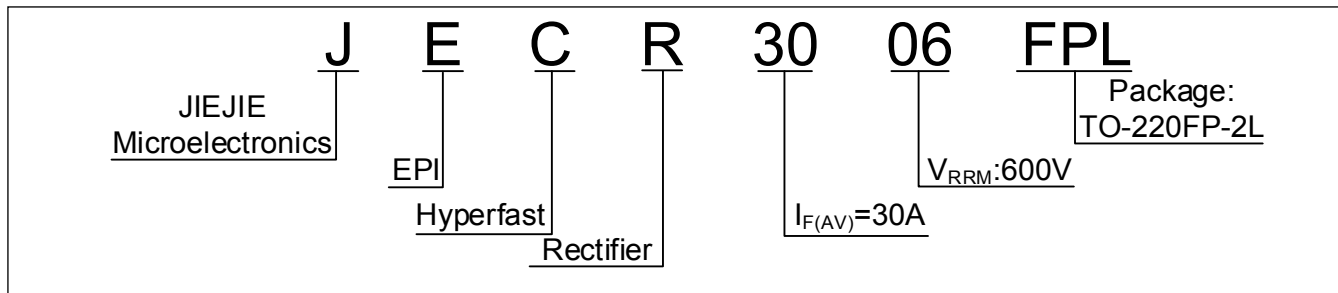
xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

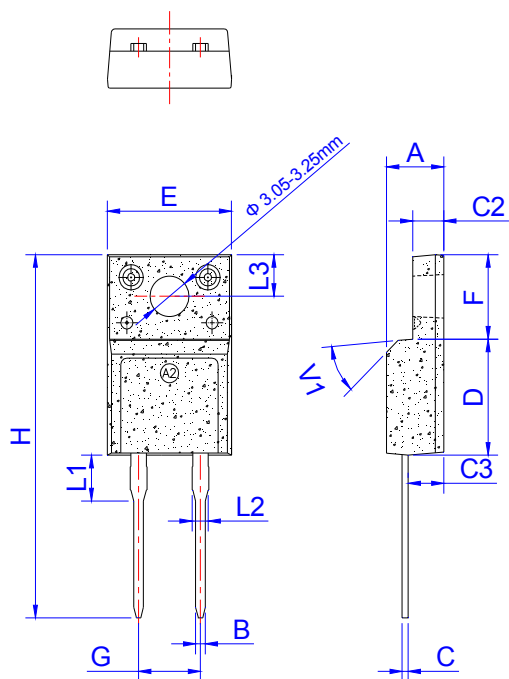
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION



PACKAGE MECHANICAL DATA

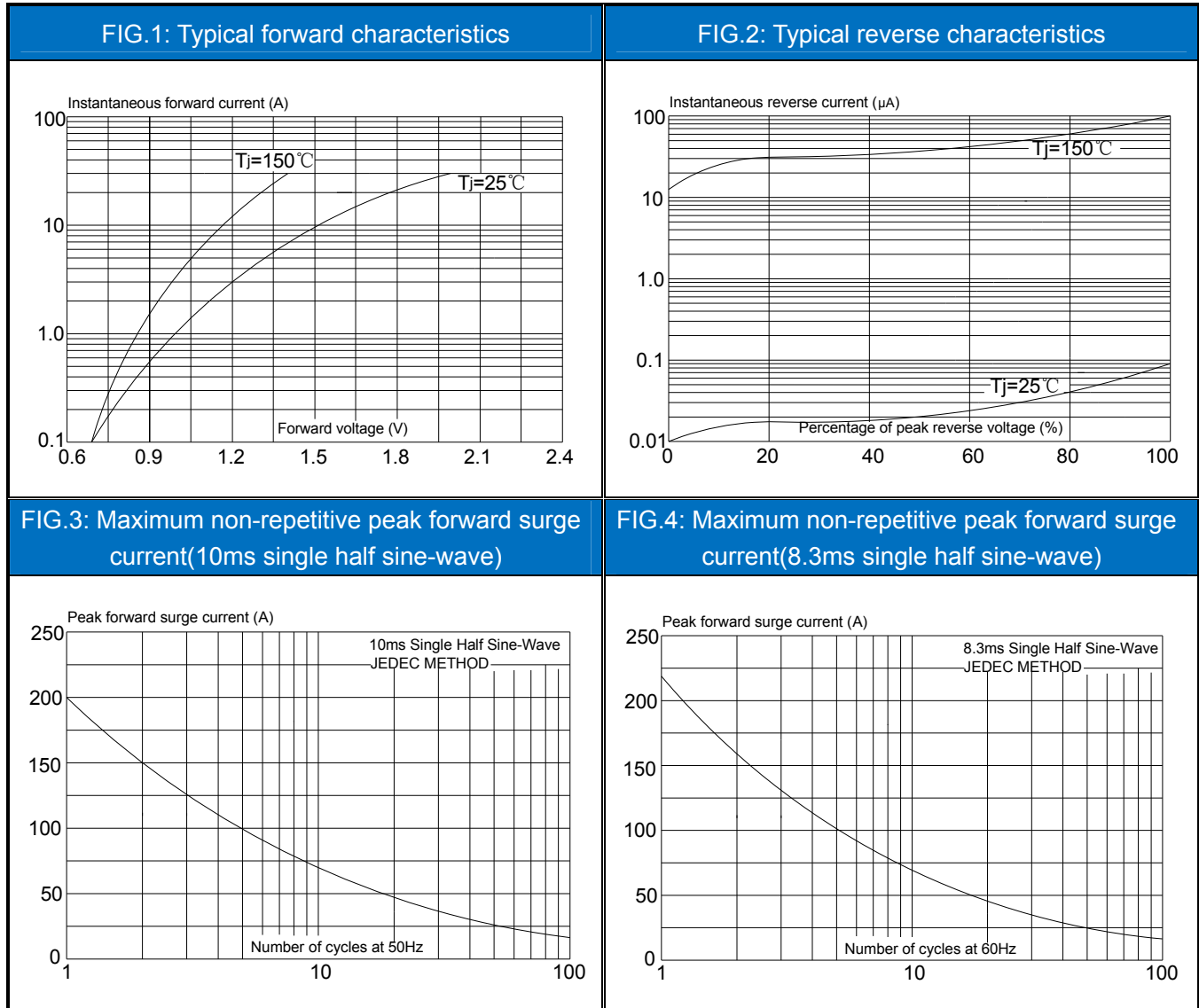


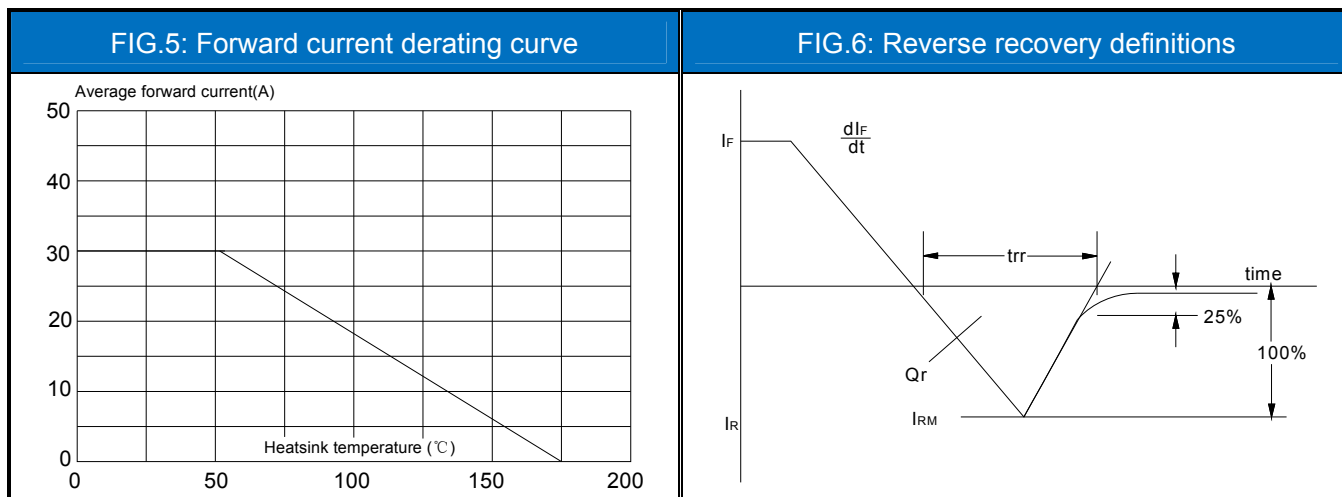
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		5.08			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






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