



## JEER2004FPCT

### EPI SUPERFAST SOFT RECOVERY RECTIFIER

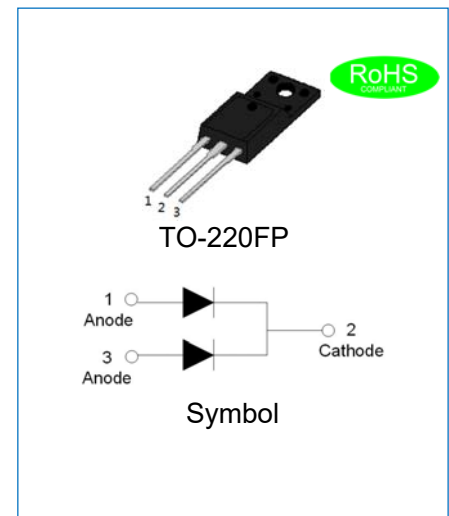
Rev.1.6

#### 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
- ✧ Superfast recovery time and soft recovery characteristics
- ✧ Low recovery loss

#### MECHANICAL DATA

- ✧ Case: TO-220FP molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 2.07 gram



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

Parameter	Symbol	JEER2004FPCT	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	400	V
Maximum DC blocking voltage	$V_{DC}$	400	V
Average forward current at $T_C=100^{\circ}\text{C}$	$I_{F(AV)}$	20	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load(per diode)	$I_{FSM}$	150	A
Junction temperature and storage temperature range	$T_j, T_{stg}$	-55 to +150	$^{\circ}\text{C}$

#### ISOLATION CHARACTERISTICS

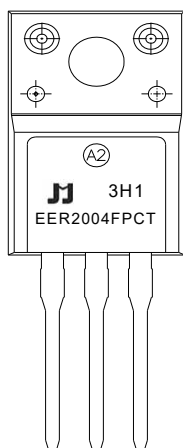
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{isol(RMS)}$	RMS isolation voltage	50Hz $\leq f \leq$ 60Hz, RH $\leq$ 65%, from all pins to external heatsink, sinusoidal waveform, clean and dust free	-	-	2500	V
$C_{isol}$	Isolation capacitance	from cathode to external heatsink	-	10	-	pF

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

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=10A, T_J=25^{\circ}C$	$V_F$	-	-	1.3	V
Reverse current	$V_R=400V, T_J=25^{\circ}C$	$I_R$	-	-	5	$\mu A$
	$V_R=400V, T_J=150^{\circ}C$		-	-	200	
Reverse recovery time	$I_F=0.5A, I_R=1A, I_{rr}=0.25A$	$t_{rr}$	-	-	35	ns

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	2.5	-	$^{\circ}C/W$

**MARKING**

EER	EPI Superfast Recovery Rectifier
20	$I_{F(AV)}=20A$
04	$V_{RRM}:400V$
FP	Package:TO-220FP
CT	Common cathode

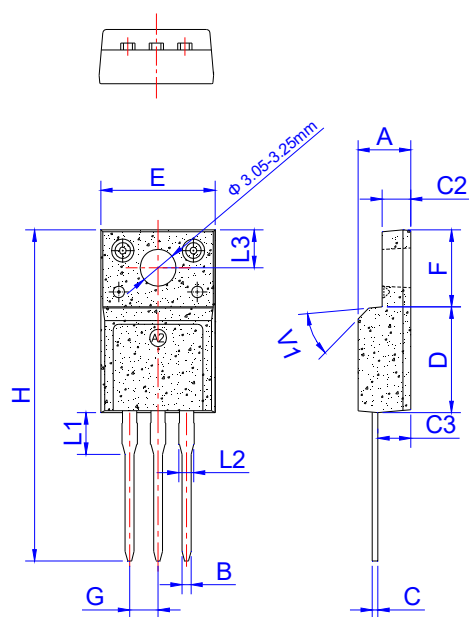
 $\underline{x}H1$ : Month, 1/2/3~9/A/B/C $3\underline{x}1$ :

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**

J	E	E	R	20	04	FP	CT
JieJie Microelectronics	Epi	Superfast	Rectifier	$I_{F(AV)}=20A$	$V_{RRM}:400V$	Package: TO-220FP	Common cathode

## PACKAGE MECHANICAL DATA



TO-220FP

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	2.40		2.70	0.094		0.106
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

OUTLINE	UNIT WEIGHT (g/PCS) TYP	TUBE (PCS)	PER CARTON (PCS)
TUBE	2.07	50	5,000

## CHARACTERISTICS CURVE

FIG.1 Typical forward characteristics

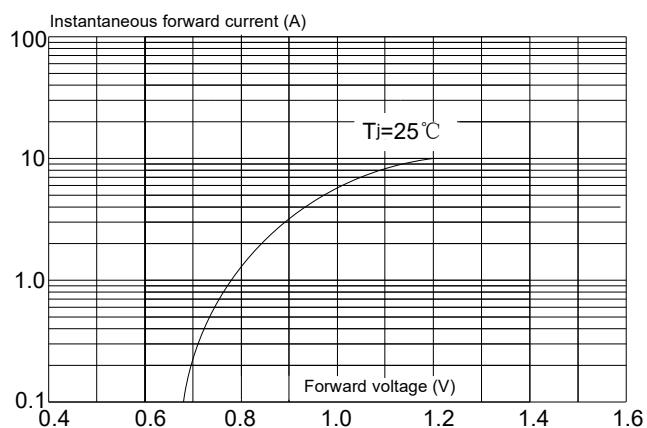


FIG.2 Typical reverse characteristics

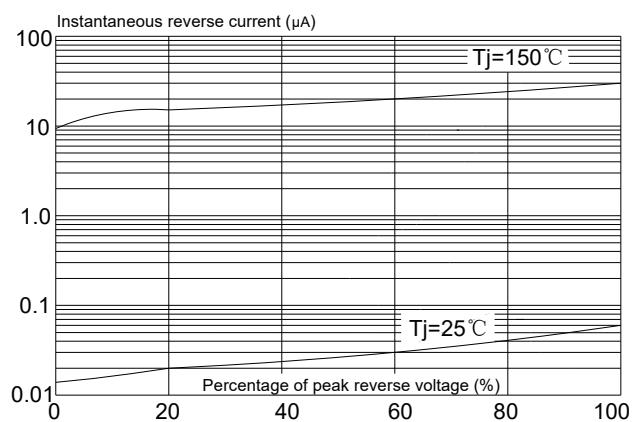


FIG.3 Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

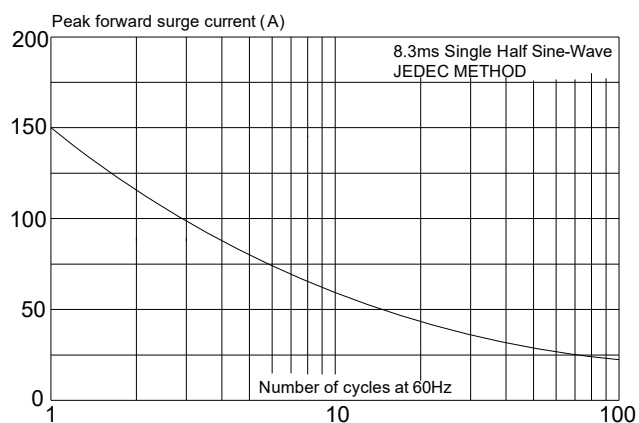
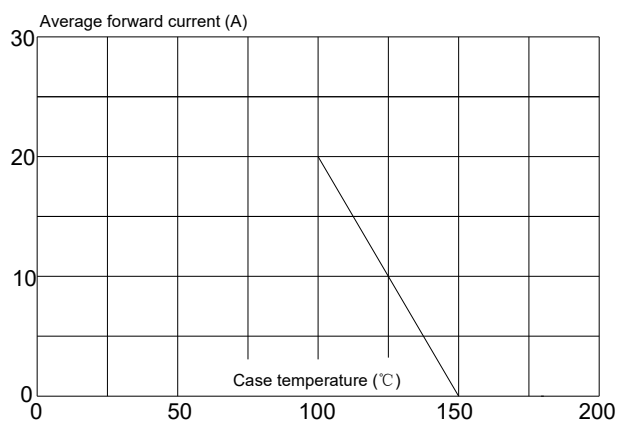


FIG.4: Forward current derating curve



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