

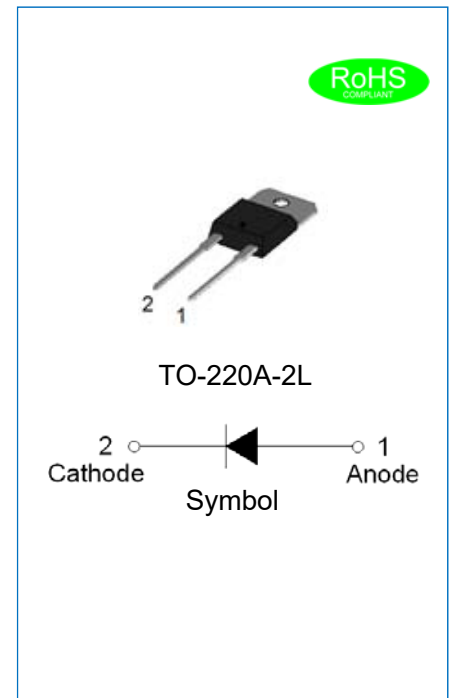


## JEER3006AL EPI SUPERFAST RECOVERY RECTIFIER

Rev.1.2

### 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
- ✧ Applications for discontinuous current mode (DCM) power factor correction (PFC), active PFC in air conditioner, high frequency switched-mode power supplies
- ✧ Insulation (2500V<sub>RMS</sub>) allows placement on same heatsink as mosfet and flexible heatsinking on common or separate heatsink



### MECHANICAL DATA

- ✧ Case: TO-220A-2L molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Internally constructed isolated package is offered for ease of heat sinking with highest isolation voltage
- ✧ Weight: 2.1 gram

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

Parameter	Symbol	JEER3006AL	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	600	V
Maximum DC blocking voltage	$V_{DC}$	600	V
Average forward current at $T_C=100^{\circ}\text{C}$	$I_{F(AV)}$	30	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	$I_{FSM}$	180	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		200	
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≤f≤60Hz;RH≤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

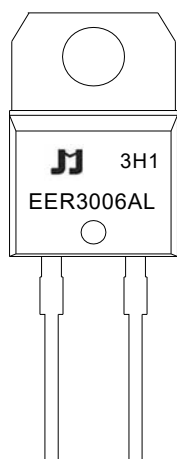
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C case temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=30A, T_J=25^{\circ}C$	$V_F$	-	1.65	2.0	V
	$I_F=30A, T_J=150^{\circ}C$		-	1.35	-	
Reverse current	$V_R=600V, T_J=25^{\circ}C$	$I_R$	-	-	5	$\mu A$
	$V_R=600V, T_J=150^{\circ}C$		-	-	400	
Reverse recovery time	$I_F=0.5A, I_R=1A, I_{rr}=0.25A$	$t_{rr}$	-	-	35	ns
	$I_F=30A, V_R=30V, di/dt=200A/\mu s, T_J=25^{\circ}C$		-	41	90	
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$		-	51	-	
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	90	-	
Peak reverse recovery current	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$	$I_{RM}$	-	5.5	-	A
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	12.5	-	
Recovered charge	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$	$Q_r$	-	160	-	nC
	$I_F=30A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	580	-	

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	1.5	-	$^{\circ}C/W$

## MARKING



EER	EPI Superfast Recovery Rectifier
30	$I_{F(AV)}=30A$
06	$V_{RRM}:600V$
AL	Package: TO-220A-2L

xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

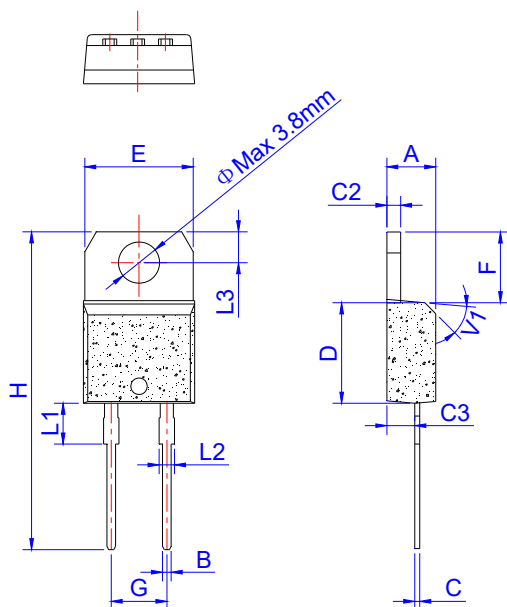
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

## ORDERING INFORMATION

J	E	E	R	30	06	AL
JieJie Microelectronics	Epi Superfast Rectifier			$I_{F(AV)}=30A$	$V_{RRM}:600V$	Package:TO-220A-2L

## PACKAGE MECHANICAL DATA



TO-220A-2L Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		5.08			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

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

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	2.1	50	5,000

## CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

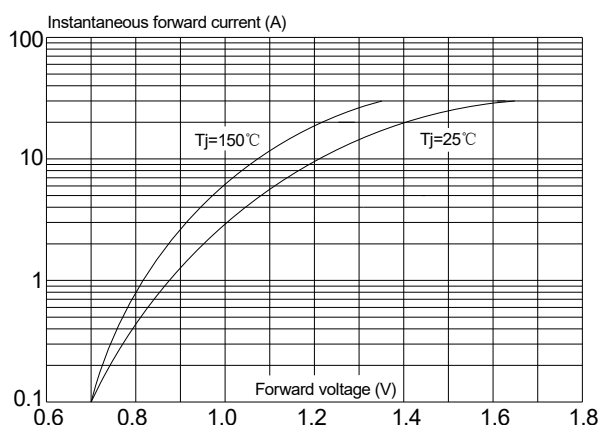


FIG.2: Typical reverse characteristics

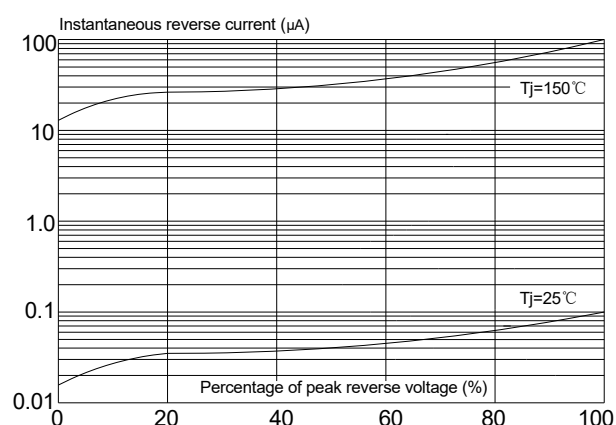


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

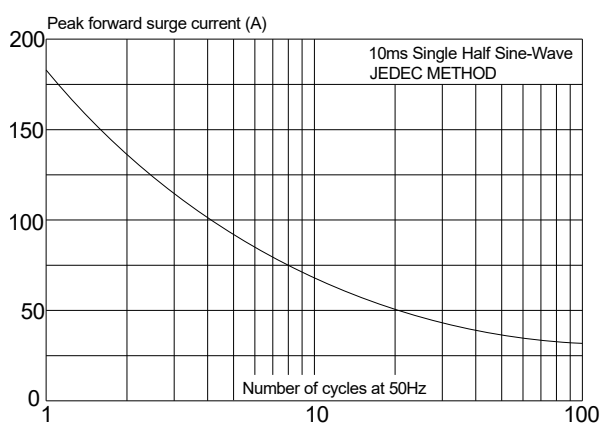


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

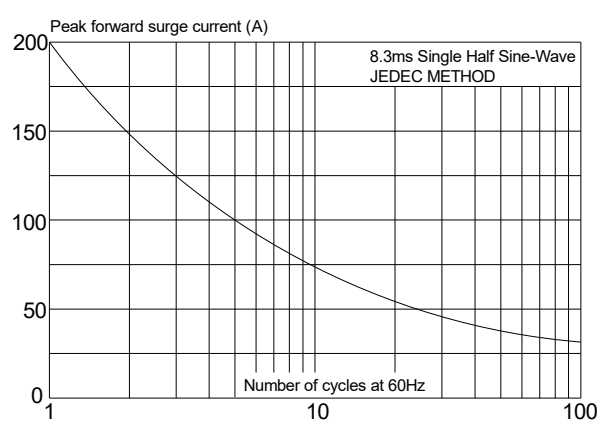


FIG.5: Forward current derating curve

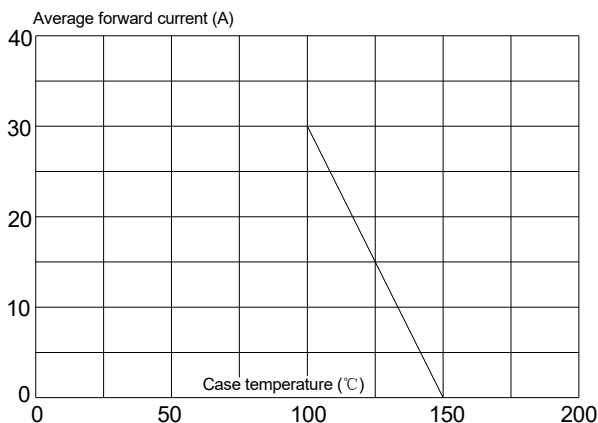
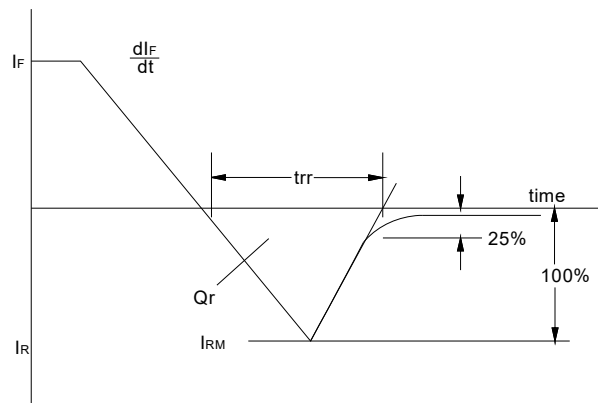


FIG.6: Reverse recovery definitions



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