



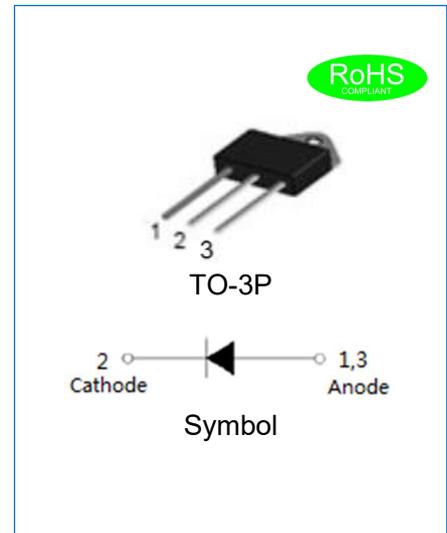
## JECR6006ZW

### EPI HYPERFAST SOFT RECOVERY RECTIFIER

Rev.1.0

#### 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
- ✧ Ultrafast recovery time and soft recovery characteristics
- ✧ Low recovery loss
- ✧ Active PFC in air conditioner, S.M.P.S Power Factor Correction (PFC) and half bridge/full-bridge switched-mode power supplies



#### MECHANICAL DATA

- ✧ Case: TO-3P 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

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

Parameter	Symbol	JECR6006ZW	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 at $T_c=70^\circ\text{C}$	$I_{F(AV)}$	60	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	$I_{FSM}$	600	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	660	A
Junction temperature and storage temperature range	$T_j, T_{stg}$	-55 to +150	°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

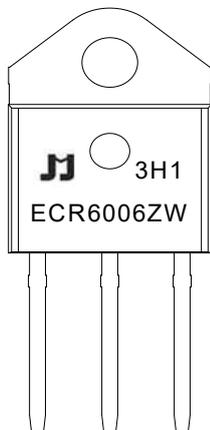
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C case temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=60A, T_J=25^\circ C$	$V_F$	-	2	2.4	V
	$I_F=60A, T_J=150^\circ C$		-	1.45	2	
Reverse current	$V_R=600V, T_J=25^\circ C$	$I_R$	-	-	5	$\mu A$
	$V_R=600V, T_J=150^\circ C$		-	-	500	
Reverse recovery time	$I_F=1A, V_R=30V,$ $di/dt=50A/\mu s, T_J=25^\circ C$	$t_{rr}$	-	-	50	ns
	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=25^\circ C$		-	45	-	
	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=125^\circ C$		-	80	-	
Peak reverse recovery current	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=25^\circ C$	$I_{RM}$	-	3.9	-	A
	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=125^\circ C$		-	12	-	
Reverse charge	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=25^\circ C$	$Q_r$	-	100	-	nC
	$I_F=60A, V_R=400V,$ $di/dt=200A/\mu s, T_J=125^\circ C$		-	500	-	

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case	-	1.1	-	$^\circ C/W$

**MARKING**



ECR	EPI Hyperfast Recovery Rectifier
60	$I_{F(AV)}=60A$
06	$V_{RRM}:600V$
ZW	Package:TO-3P

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

$3\underline{x}1$ :

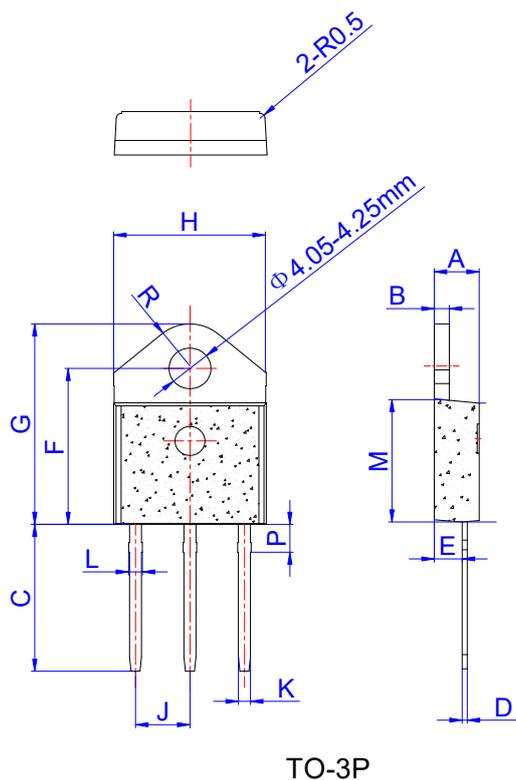
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

$3H\underline{x}$ : Batch number

ORDERING INFORMATION

<p><b>J</b></p> <p>JIEJIE Microelectronics</p>	<p><b>E</b></p> <p>Epi Hyperfast</p>	<p><b>C</b></p> <p>Rectifier</p>	<p><b>R</b></p>	<p><b>60</b></p> <p><math>I_{F(AV)}=60A</math></p>	<p><b>06</b></p> <p><math>V_{RRM}=600V</math></p>	<p><b>ZW</b></p> <p>Package:TO-3P</p>
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
M	12.37		12.77	0.487		0.503
P	2.80		3.00	0.110		0.118
R		4.35			0.171	

PACKAGE INFORMATION-TO-3P

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	4.805	30	2,250

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

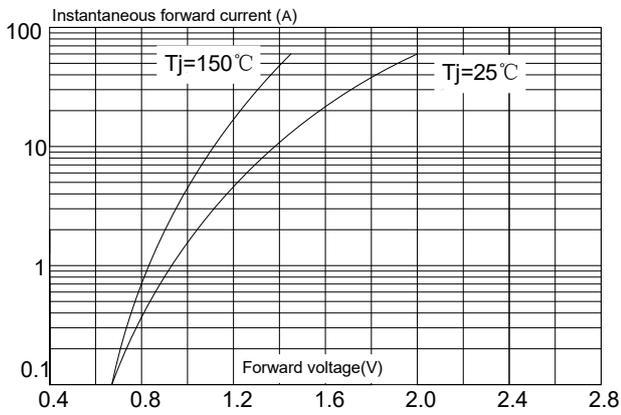


FIG.2: Typical reverse characteristics

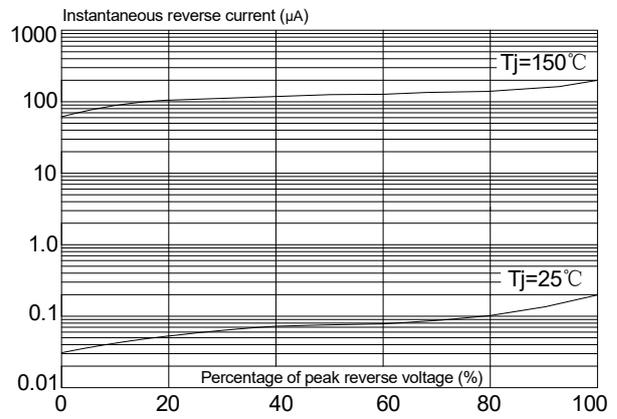


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

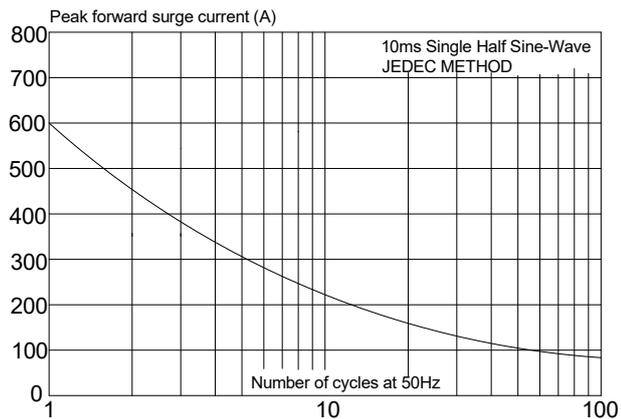


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

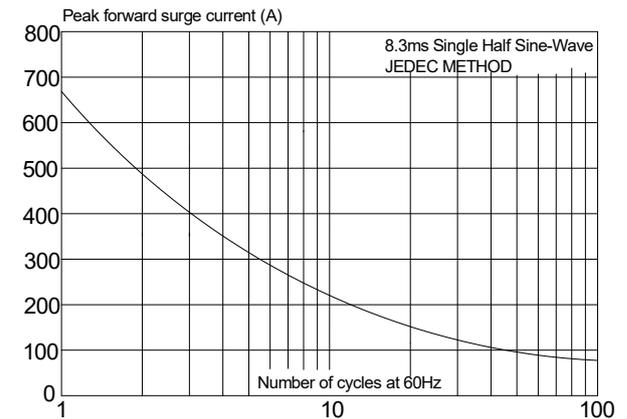


FIG.5: Forward current derating curve

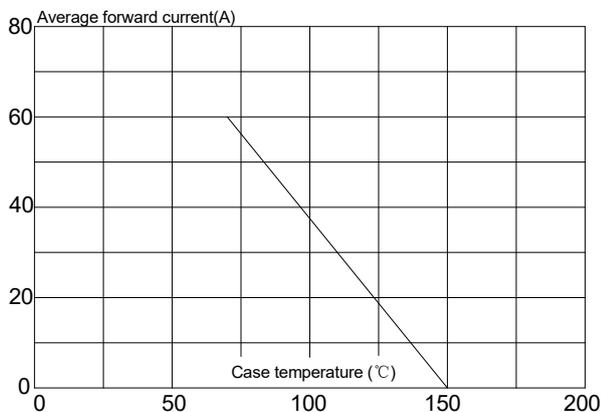
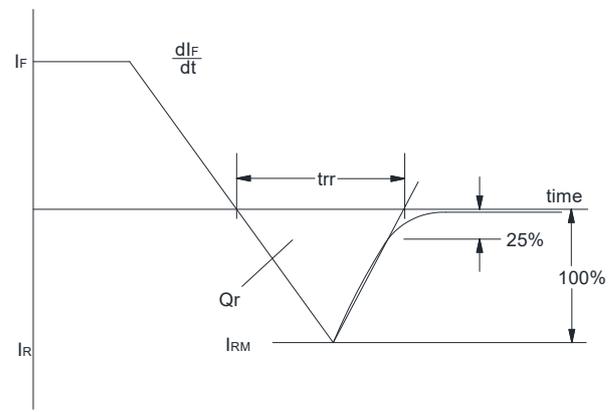


FIG.6: Reverse recovery definitions



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