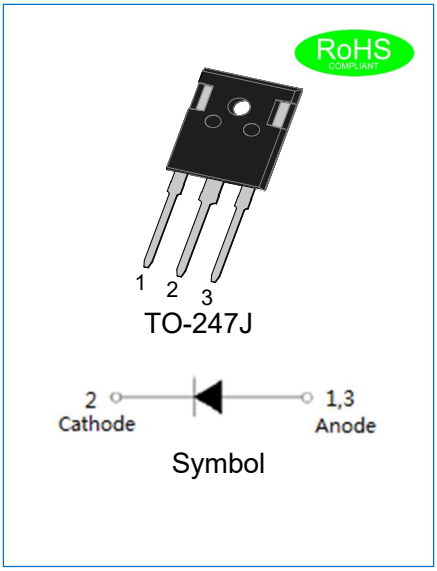
JECR3006SW

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, and half bridge full bridge switched-mode power supplies



MECHANICAL DATA

- ✧ Case: TO-247J molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight:6 gram

ABSOLUTE MAXIMUM RATING (Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	JECR3006SW	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
Average forward current at T_{mb}≤115°C	$I_{F(AV)}$	30	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load	I_{FSM}	270	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		300	
Junction temperature and storage temperature range	T_j,T_{stg}	-55 to +150	℃

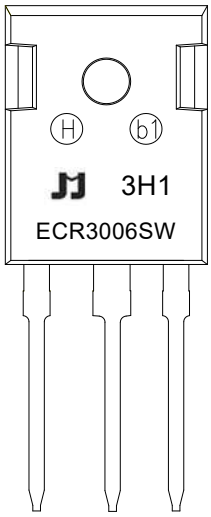
ELECTRICAL CHARACTERISTICS(Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage @I_F=30A	T_j=25℃	V_F	-	2	2.75	V
	T_j=150℃		-	1.38	1.8	
DC reverse current at rated DC blocking voltage	T_j=25℃	I_R	-	-	5	μA
	T_j=150℃		-	-	400	
Reverse recovery time	I_F=1A,V_R=30V, dI_F/dt=200A/μs,T_j=25℃	t_{rr}	-	18	22	ns
	I_F=30A,V_R=200V, dI_F/dt=200A/μs,T_j=25℃		-	35	-	
	I_F=30A,V_R=200V, dI_F/dt=200A/μs,T_j=125℃		-	70	-	
	I_F=30A,V_R=400V, dI_F/dt=500A/μs,T_j=25℃		-	29	-	
Peak reverse recovery current	I_F=30A,V_R=200V, di/dt=200A/μs,T_j=25℃	I_{RM}	-	3.5	-	A
	I_F=30A,V_R=200V, di/dt=200A/μs,T_j=125℃		-	7.6	-	
Recovered charge	I_F=30A,V_R=200V, dI_F/dt=200A/μs,T_j=25℃	Q_r	-	50	-	nC
	I_F=30A,V_R=200V, dI_F/dt=200A/μs,T_j=125℃		-	280	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-mb)}$	Thermal resistance from junction to mounting base	-	-	1	℃/W
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	45	-	℃/W

MARKING



ECR	EPI Hyperfast Recovery Rectifier
30	$I_{F(AV)}$=30A
06	V_{RRM}:600V
SW	Package:TO-247J

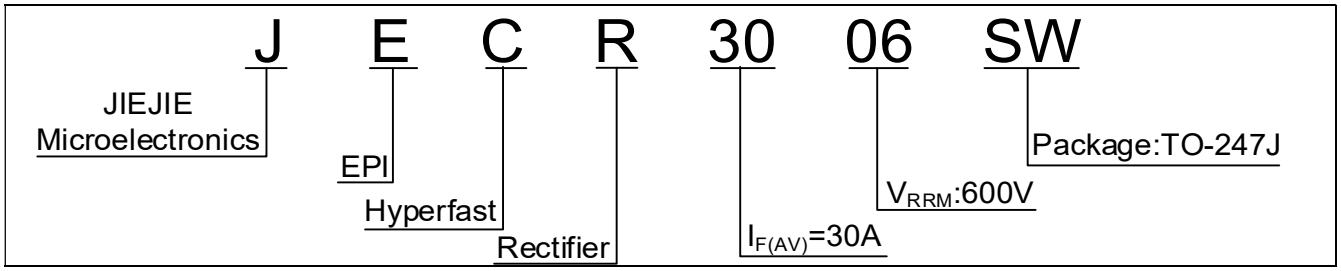
xH1: Month, 1/2/3~9/A/B/C

3**x**1:

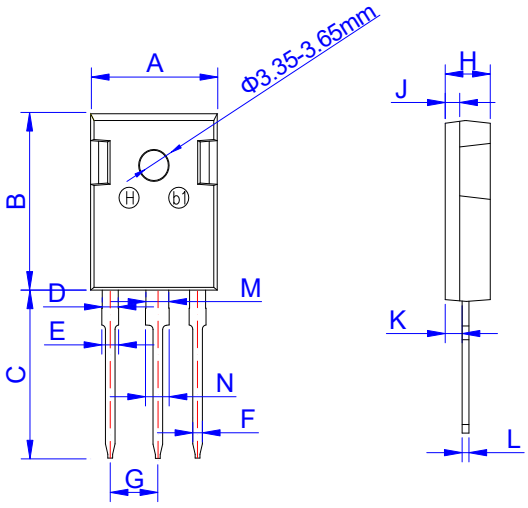
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	…
O	P	Q	R	S	T	…

3H**x**: Batch number

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



TO-247J

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	21.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G	5.25		5.65	0.207		0.222
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031
M	2.80	3.00	3.20	0.110	0.118	0.126
N	2.90	3.10	3.30	0.114	0.122	0.130

PACKAGE INFORMATION-TO-247J

OUTLINE	UNIT WEIGHT (g/PCS) TYP	TUBE (PCS)	PER CARTON (PCS)
TUBE	6	30	2,250

CHARACTERITICS CURVE

FIG.1: Typical forward characteristics

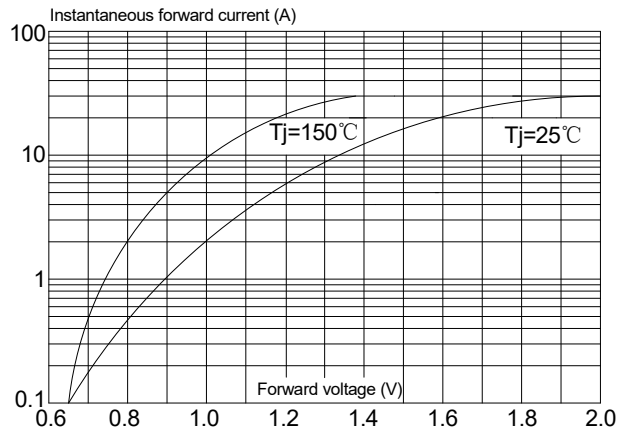


FIG.2: Typical reverse characteristics

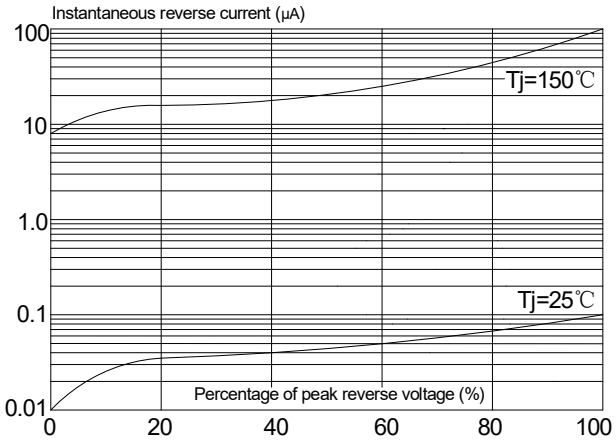


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

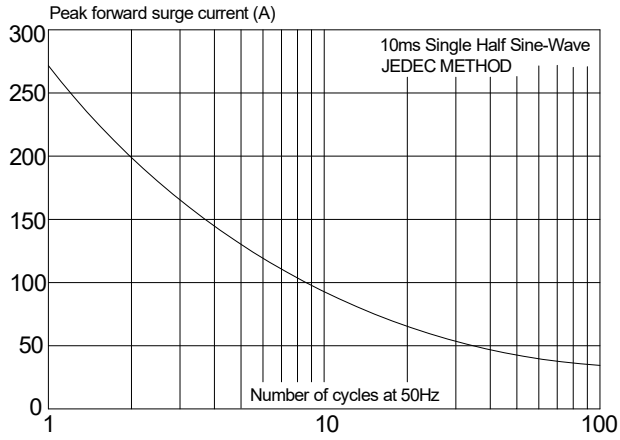


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

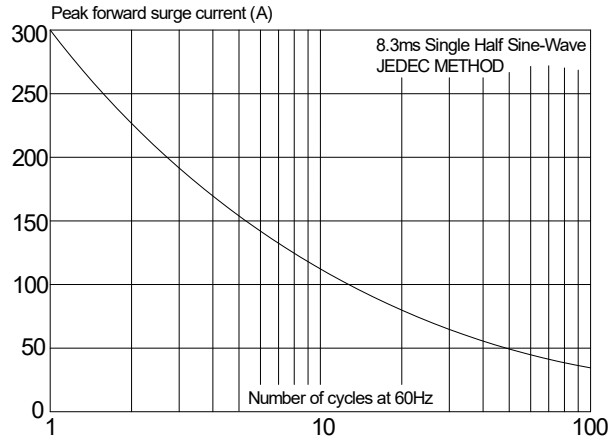


FIG.5: Forward current derating curve

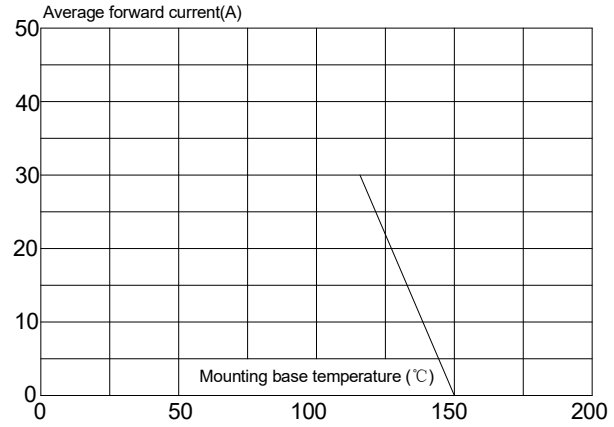


FIG.6: Reverse recovery definitions