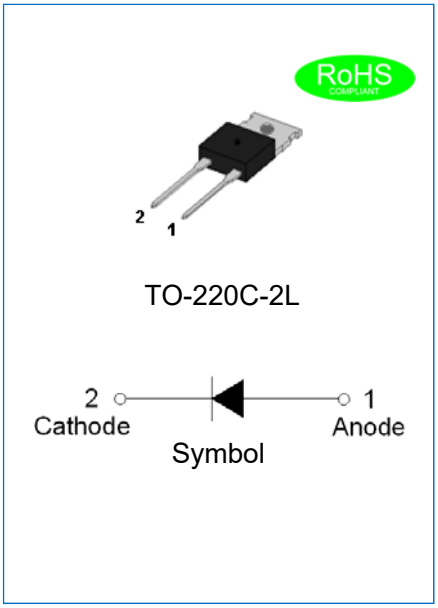
JECR1006CL

EPI HYPERFAST SOFT RECOVERY RECTIFIER

Rev.1.5



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 active PFC in air conditioner, high frequency switched-mode power supplies, continuous current mode (CCM) power factor correction (PFC)

MECHANICAL DATA

- ✧ Case: TO-220C-2L molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight:2 gram

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

Parameter	Symbol	JECR1006CL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum DC blocking voltage	V_{DC}	600	V
Average forward current at T_{mb}=127℃	$I_{F(AV)}$	10	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	132	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load		120	
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150	℃

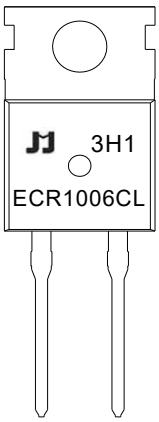
ELECTRICAL CHARACTERISTICS(Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F=10A,T_j=25℃	V_F	-	2.5	3.2	V
	I_F=10A,T_j=150℃		-	1.3	2	
Reverse current	V_R=600V,T_j=25℃	I_R	-	-	5	μA
	V_R=600V,T_j=150℃		-	-	300	
Reverse recovery time	I_F=1A,V_R=30V, di/dt=200A/μs,T_j=25℃	t_{rr}	-	12	18	ns
	I_F=10A,V_R=400V, di/dt=500A/μs,T_j=25℃		-	19	-	
	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=25℃		-	26	-	
	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=125℃		-	34	-	
Peak reverse recovery current	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=25℃	I_{RM}	-	2	-	A
	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=125℃		-	4.8	-	
Recovered charge	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=25℃	Q_r	-	26	-	nC
	I_F=10A,V_R=200V, di/dt=200A/μs,T_j=125℃		-	83	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-mb)}$	Thermal resistance from junction to mounting base	-	-	2	℃/W
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	60	-	℃/W

MARKING



ECR	EPI Hyperfast Recovery Rectifier
10	$I_{F(AV)}$=10A
06	V_{RRM}:600V
CL	Package: TO-220C-2L

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	…

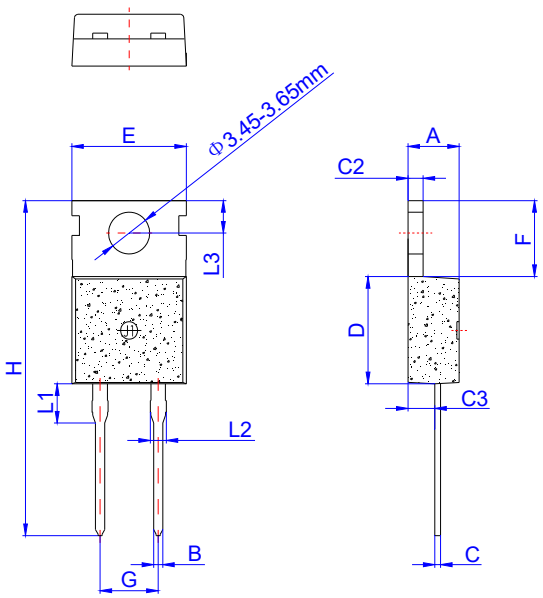
3H**x**: Batch number

ORDERING INFORMATION

J E C R 10 06 CL

- J: JieJie Microelectronics
- E: Epi
- C: Hyperfast
- R: Rectifier
- 10: $I_{F(AV)}$=10A
- 06: V_{RRM}:600V
- CL: Package:TO-220C-2L

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		5.08			0.200	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	

PACKAGE INFORMATION- TO-220C-2L

OUTLINE	UNIT WEIGHT (g/PCS) TYP	TUBE (PCS)	PER CARTON (PCS)
TUBE	2	50	5,000

CHARACTERITICS CURVE

FIG.1: Typical forward characteristics

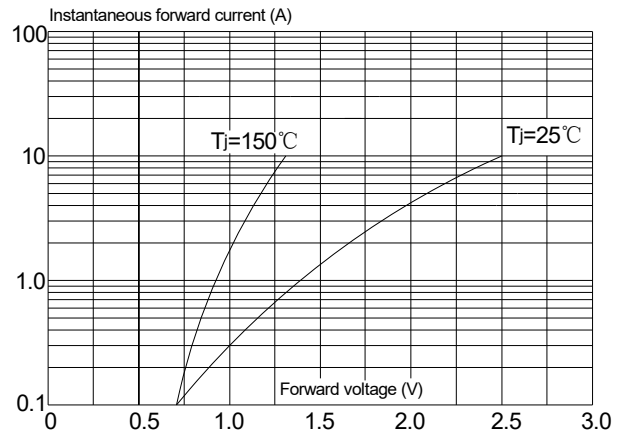


FIG.2: Typical reverse characteristics

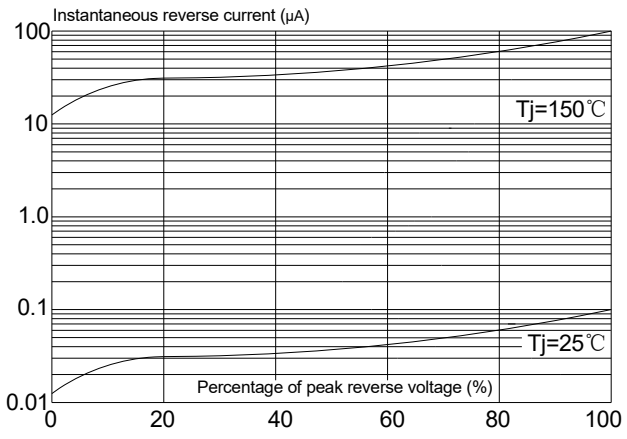


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

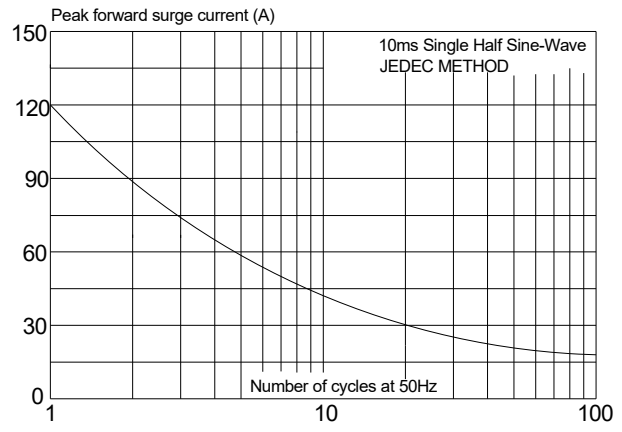


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

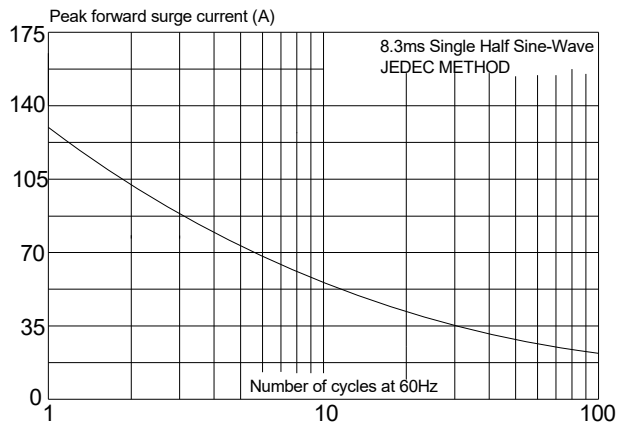


FIG.5: Forward current derating curve

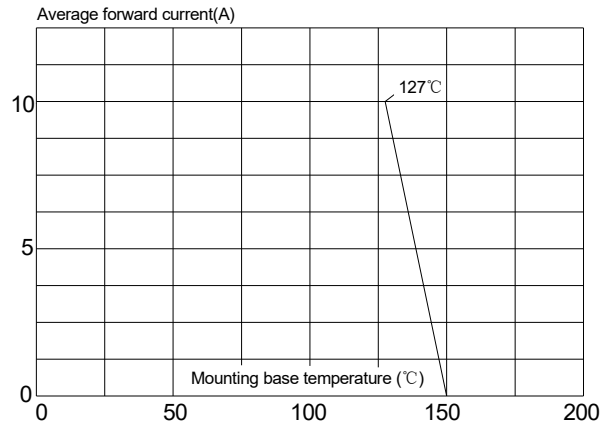


FIG.6: Reverse recovery definitions

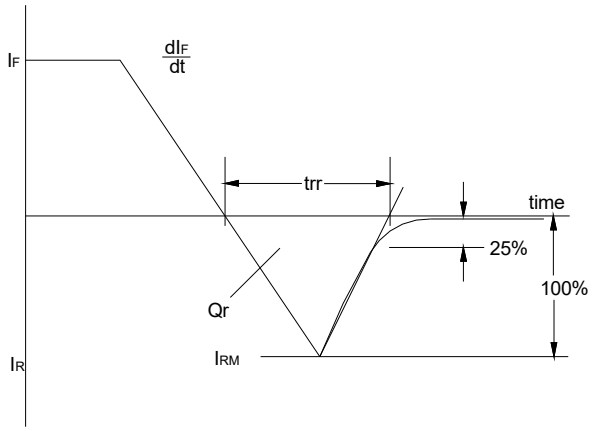


FIG.7: Forward power dissipation vs. average forward current (square waveform)

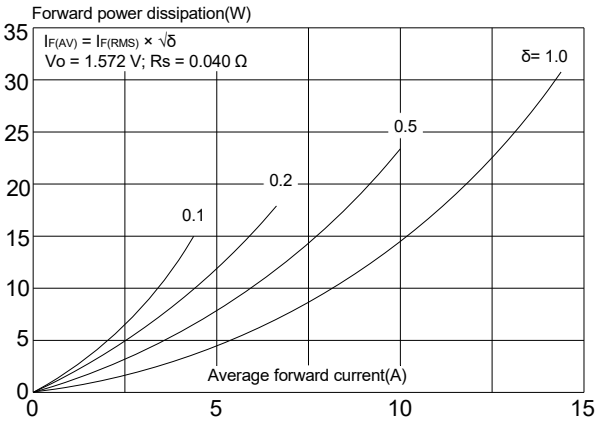
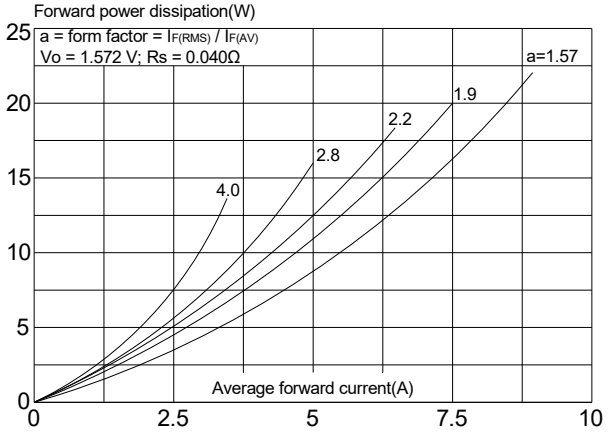


FIG.8: Forward power dissipation vs. average forward current (sinusoidal waveform)



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