



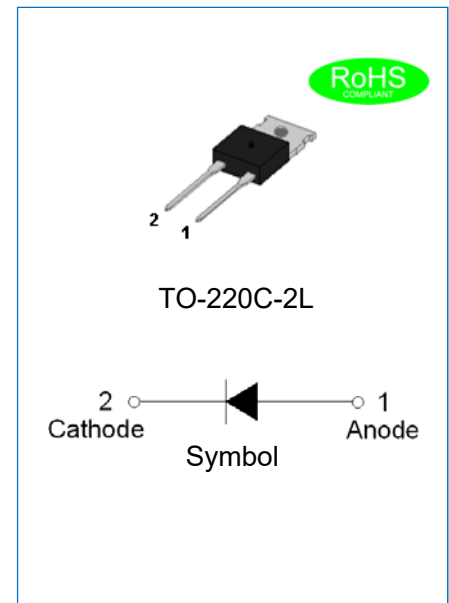
JECR1506CL

EPI HYPERFAST 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
- ✧ 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: 2gram

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

Parameter	Symbol	JECR1506CL	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum DC blocking voltage	V_{DC}	600	V
Average forward current at $T_{mb}=121^{\circ}\text{C}$	$I_{F(AV)}$	15	A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load		180	
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

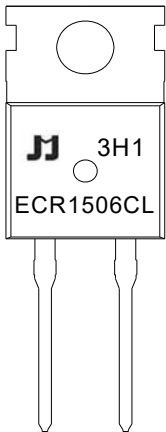
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=15A, T_J=25^{\circ}C$	V_F	-	2.6	3.2	V
	$I_F=15A, T_J=150^{\circ}C$		-	1.5	2	
Reverse current	$V_R=600V, T_J=25^{\circ}C$	I_R	-	-	5	μA
	$V_R=600V, T_J=150^{\circ}C$		-	-	300	
Reverse recovery time	$I_F=1A, V_R=30V, di/dt=200A/\mu s, T_J=25^{\circ}C$	t_{rr}	-	13	18	ns
	$I_F=15A, V_R=400V, di/dt=500A/\mu s, T_J=25^{\circ}C$		-	22	-	
	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$		-	28	-	
	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	39	-	
Peak reverse recovery current	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$	I_{RM}	-	2.1	-	A
	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	5.8	-	
Recovered charge	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=25^{\circ}C$	Q_r	-	30	-	nC
	$I_F=15A, V_R=200V, di/dt=200A/\mu s, T_J=125^{\circ}C$		-	115	-	

THERMAL RESISTANCES

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-mb)}$	Thermal resistance from junction to mounting base	-	-	1.5	$^{\circ}C/W$
$R_{th(j-a)}$	Thermal resistance from junction to ambient	-	60	-	$^{\circ}C/W$

MARKING



ECR	EPI Hyperfast Recovery Rectifier
15	$I_{F(AV)}=15A$
06	$V_{RRM}:600V$
CL	Package: TO-220C-2L

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

3x1:

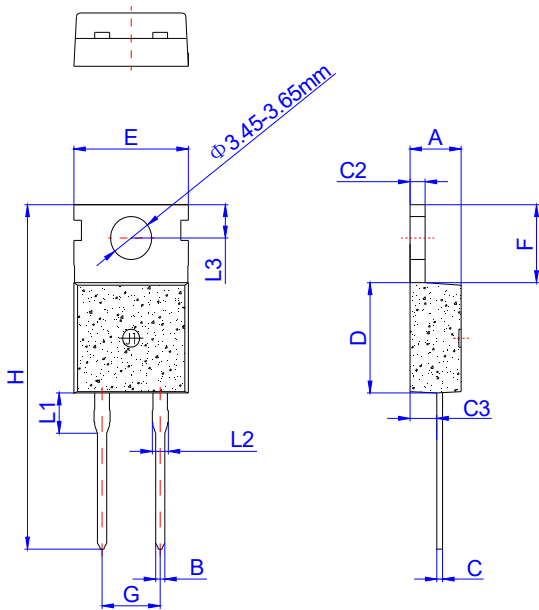
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION

J	E	C	R	15	06	CL
JieJie Microelectronics	Epi Hyperfast	Rectifier		$I_{F(AV)}=15A$	$V_{RRM}:600V$	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

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics

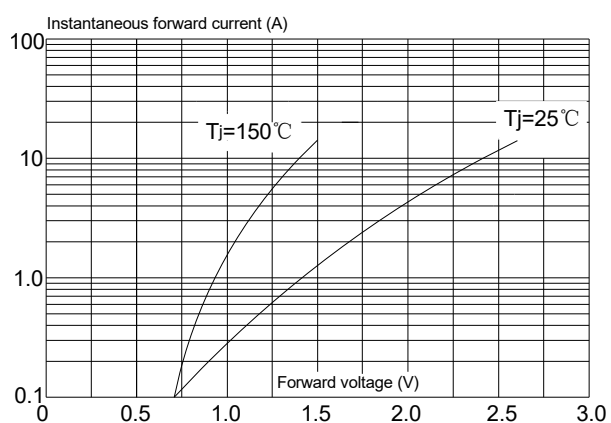


FIG.2: Typical reverse characteristics

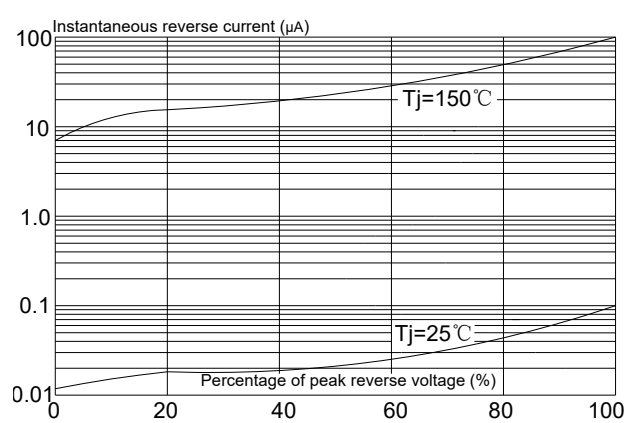


FIG.3: Maximum non-repetitive peak forward surge current(10ms single half sine-wave)

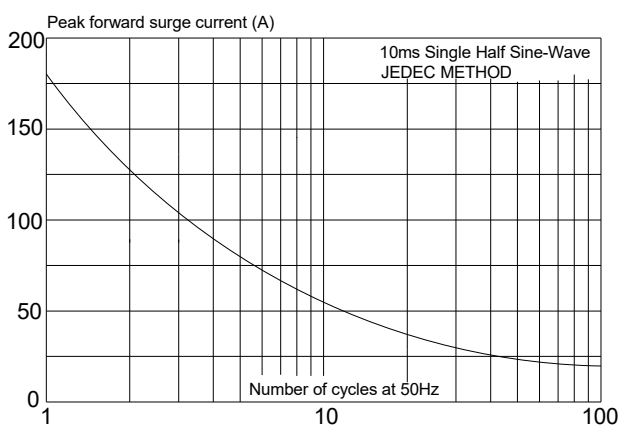


FIG.4: Maximum non-repetitive peak forward surge current(8.3ms single half sine-wave)

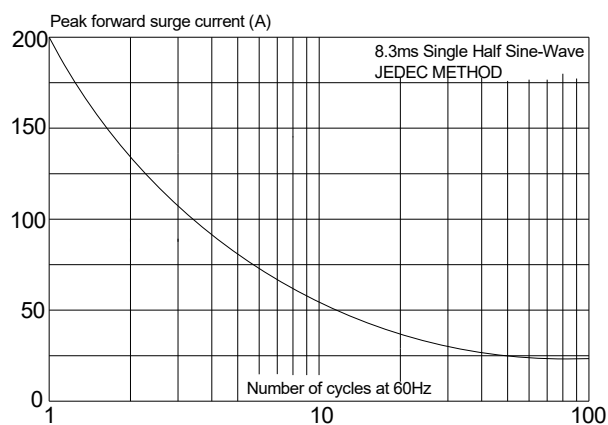


FIG.5: Forward current derating curve

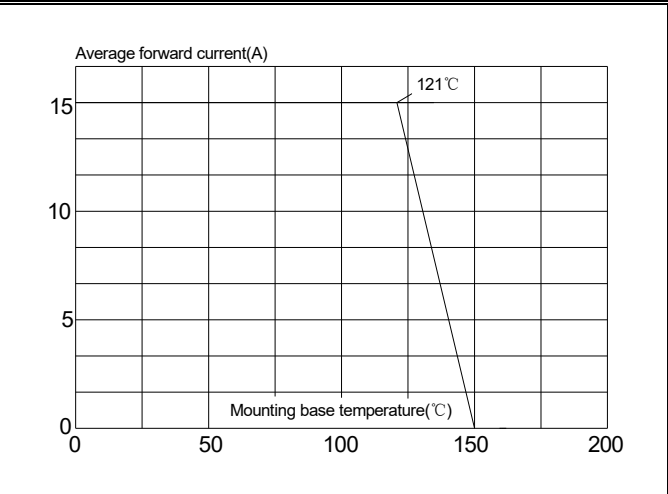


FIG.6: Reverse recovery definitions

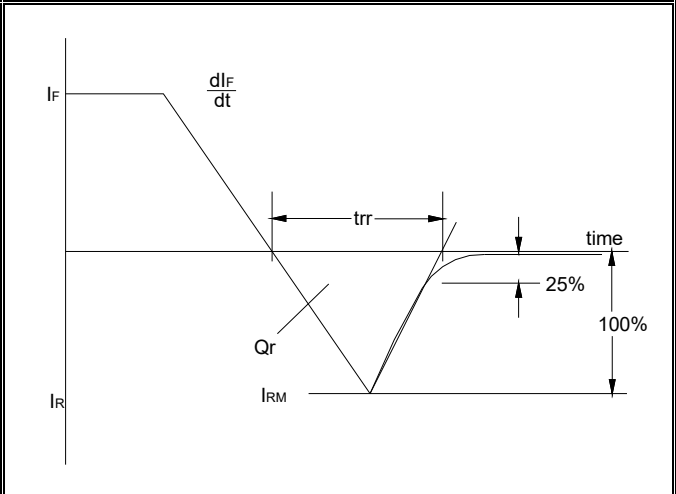


FIG.7: Forward power dissipation vs. average forward current (square waveform)

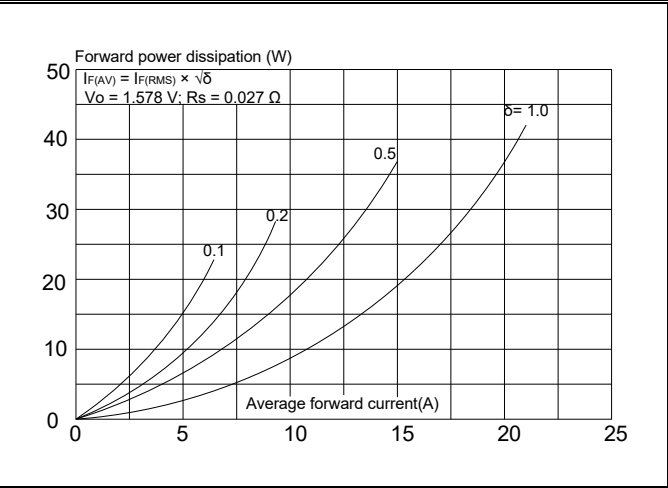
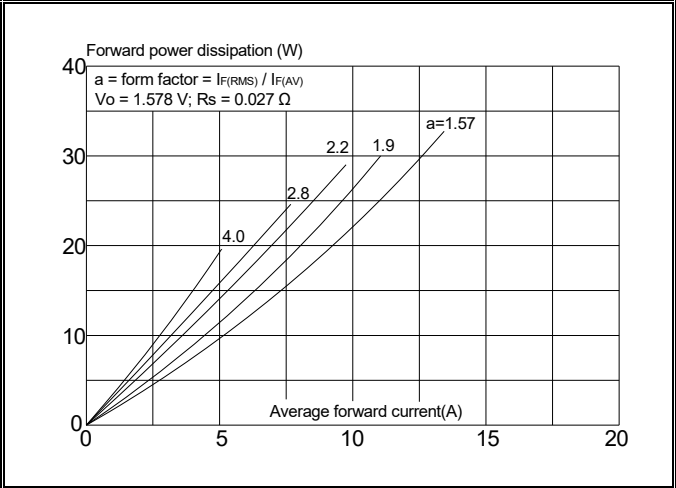


FIG.8: Forward power dissipation vs. average forward current (sinusoidal waveform)



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