



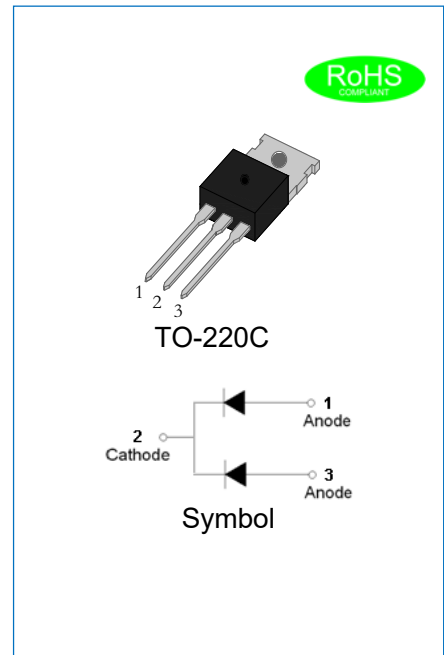
## JPCR1606CCT

### EPI PLANAR HYPERFAST SOFT RECOVERY RECTIFIER

Rev.1.1

#### 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
- ✧ Low recovery loss
- ✧ Epitaxial planar technology
- ✧ 5th Generation soft fast recovery characteristics
- ✧ Output rectifiers in high-frequency switched-mode power supplies



#### MECHANICAL DATA

- ✧ Case: TO-220C molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 2.08 gram

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

Parameter	Symbol	JPCR1606CCT	Unit
Maximum repetitive peak reverse voltage (Pin1~2 or Pin3~2)	$V_{RRM}$	600	V
Maximum RMS voltage(Pin1~2 or Pin3~2)	$V_{RMS}$	420	V
Maximum DC blocking voltage(Pin1~2 or Pin3~2)	$V_{DC}$	600	V
Average forward current at $T_C=140^{\circ}C$ (Pin1,3~2)	$I_{F(AV)}$	16	A
Peak forward surge current: 10ms single half sine-wave superimposed on rated load(Pin1~2 or Pin3~2)	$I_{FSM}$	80	A
Junction temperature and storage temperature range	$T_j, T_{stg}$	-55 to +175	°C

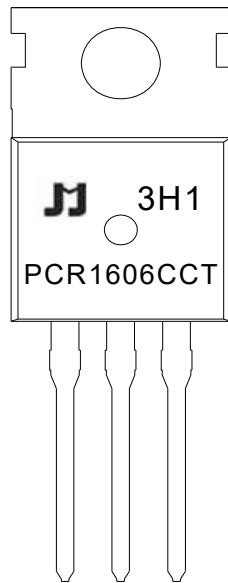
**ELECTRICAL CHARACTERISTICS**(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage (Pin1~2 or Pin3~2)	$I_F=8A, T_j=25^\circ C$	$V_F$	-	2	2.5	V
	$I_F=8A, T_j=150^\circ C$		-	1.5	-	V
Reverse current (Pin1~2 or Pin3~2)	$V_R=600V, T_j=25^\circ C$	$I_R$	-	-	5	$\mu A$
	$V_R=600V, T_j=150^\circ C$		-	-	200	
Reverse recovery time (Pin1~2 or Pin3~2)	$I_F=1A, V_R=30V,$ $dI_F/dt=200A/\mu s, T_j=25^\circ C$	$t_{rr}$	-	17	-	ns
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=25^\circ C$		-	36	-	
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	78	-	
Reverse recovery current (Pin1~2 or Pin3~2)	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=25^\circ C$	$I_{RM}$	-	2.8	-	A
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	5.2	-	
Reverse charge (Pin1~2 or Pin3~2)	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=25^\circ C$	$Q_r$	-	60	-	nC
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	240	-	

**THERMAL RESISTANCES**

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{th(j-c)}$	Thermal resistance from junction to case(Pin1,3~2)	-	-	2	$^\circ C/W$

## MARKING



PCR	Planar Hyperfast Recovery Rectifier
16	$I_{F(AV)}=16A$
06	$V_{RRM}:600V$
C	Package:TO-220C
CT	Common cathode

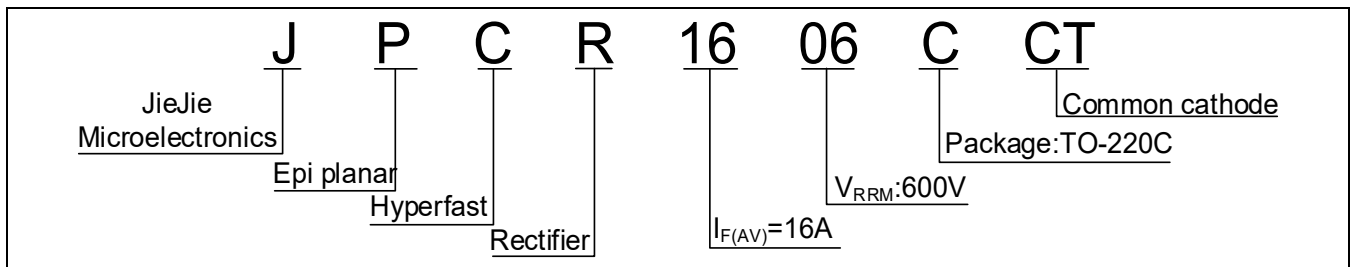
xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

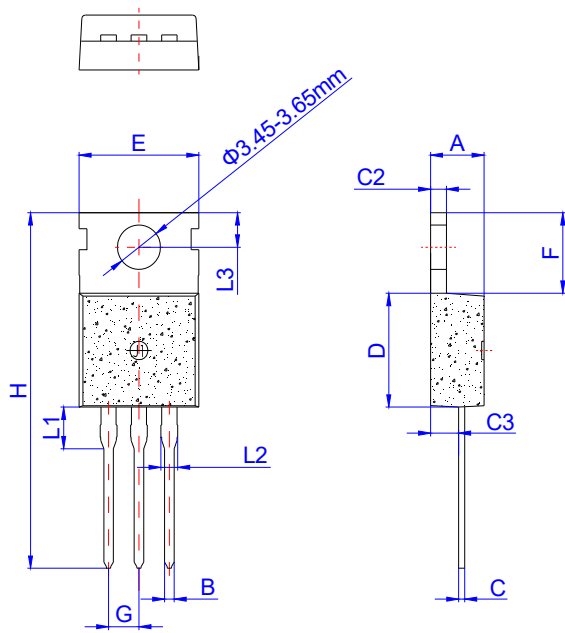
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

## ORDERING INFORMATION



## PACKAGE MECHANICAL DATA



TO-220C

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		2.54			0.1	
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

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	2.08	50	5,000

CHARACTERISTICS CURVE

FIG.1: Typical forward characteristics  
(Pin1~2 or Pin3~2)

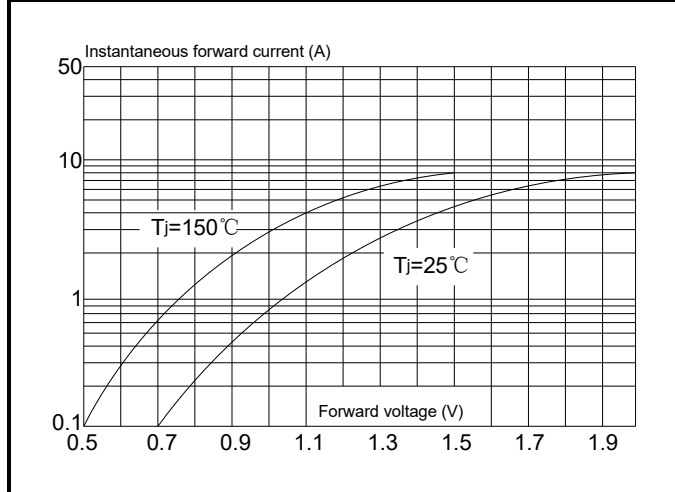


FIG.2: Typical reverse characteristics  
(Pin1~2 or Pin3~2)

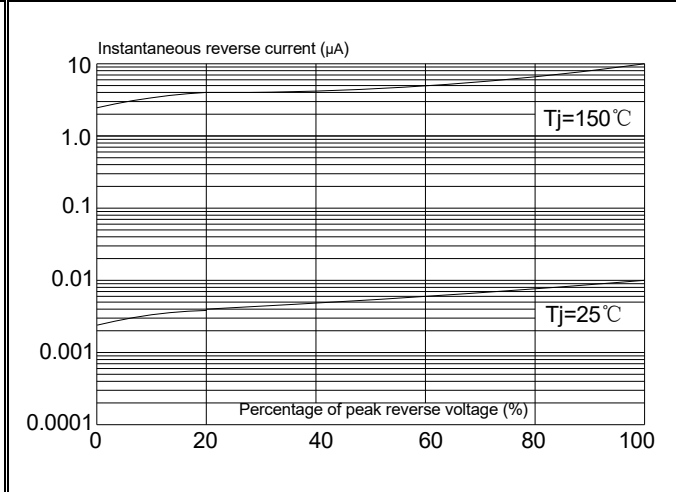


FIG.3: Maximum non-repetitive peak forward surge current  
(10ms single half sine-wave, Pin1~2 or Pin3~2)

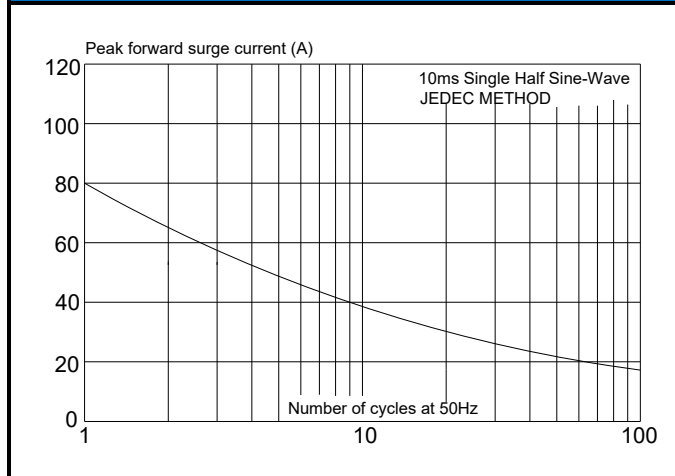


FIG.4: Forward current derating curve  
(Pin1,3~2)

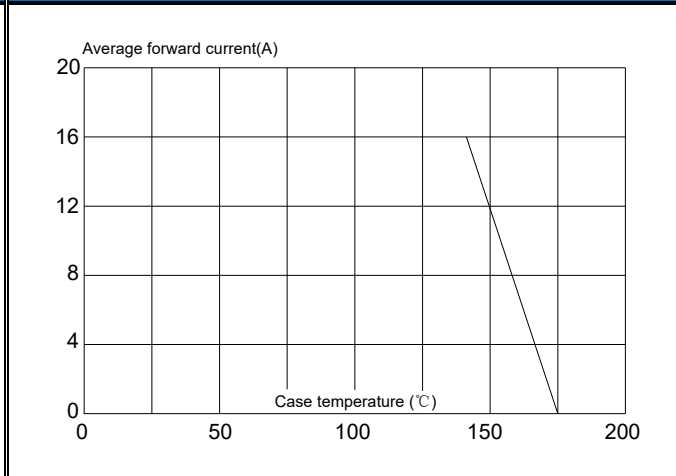
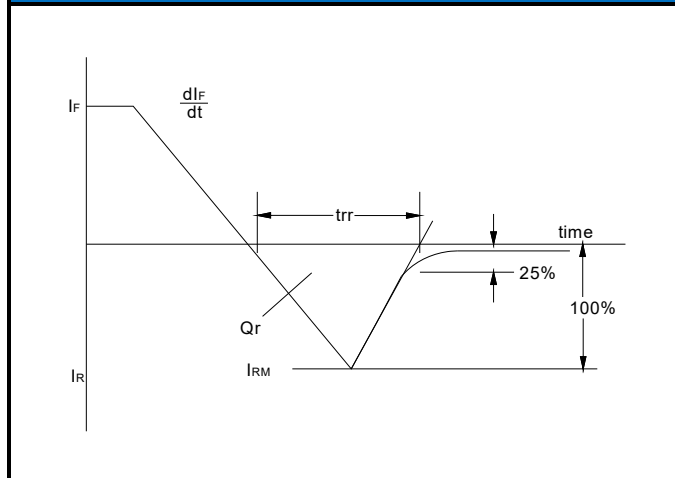


FIG.5: Reverse recovery definitions




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