



JPCR1602AAT

EPI PLANAR HYPERFAST SOFT RECOVERY RECTIFIER

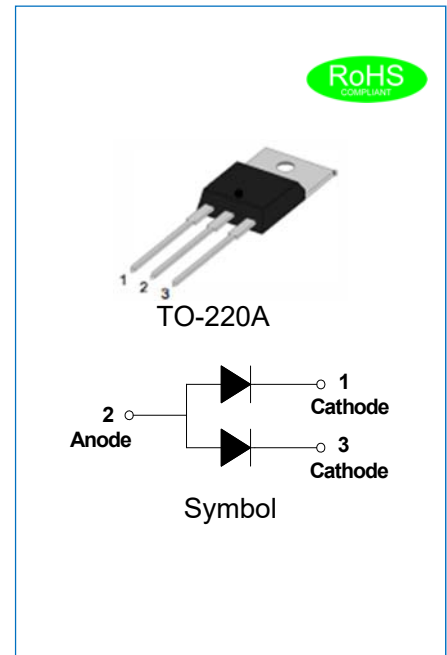
Rev.1.1

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-220A molded plastic over passivated junction
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Weight: 2.1 gram



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

Parameter	Symbol	JPCR1602AAT	Unit
Maximum repetitive peak reverse voltage (Pin1~2 or Pin3~2)	V_{RRM}	200	V
Maximum RMS voltage(Pin1~2 or Pin3~2)	V_{RMS}	140	V
Maximum DC blocking voltage(Pin1~2 or Pin3~2)	V_{DC}	200	V
Average forward current at $T_C=150^{\circ}C$ (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}	125	A
Junction temperature and storage temperature range	T_j, T_{stg}	-55 to +175	°C

ISOLATION CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{isol(RMS)}$	RMS isolation voltage	50Hz≤f≤60Hz;RH≤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

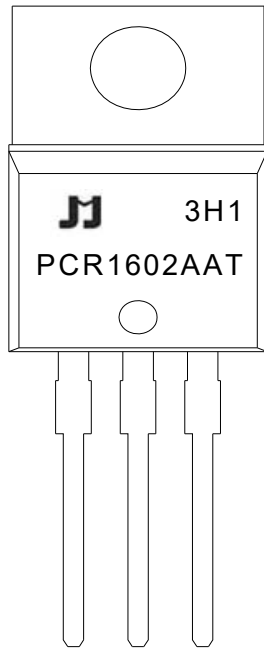
ELECTRICAL CHARACTERISTICS(Rating at 25°C ambient temperature unless otherwise specified.)

Parameter		Symbol	Min.	Typ.	Max.	Unit
Forward voltage (Pin1~2 or Pin3~2)	$I_F=8A, T_j=25^\circ C$	V_F	-	0.9	1.1	V
	$I_F=8A, T_j=150^\circ C$		-	0.75	-	V
Reverse current (Pin1~2 or Pin3~2)	$V_R=200V, T_j=25^\circ C$	I_R	-	-	5	μA
	$V_R=200V, T_j=150^\circ C$		-	-	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}	-	18	-	ns
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=25^\circ C$		-	28	-	
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	44	-	
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}	-	4.8	-	A
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	8	-	
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	-	70	-	nC
	$I_F=8A, V_R=200V,$ $dI_F/dt=200A/\mu s, T_j=125^\circ C$		-	180	-	

THERMAL RESISTANCES

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

MARKING



PCR	Planar Hyperfast Recovery Rectifier
16	$I_{F(AV)}=16A$
02	$V_{RRM}:200V$
A	Package:TO-220A
AT	Common anode

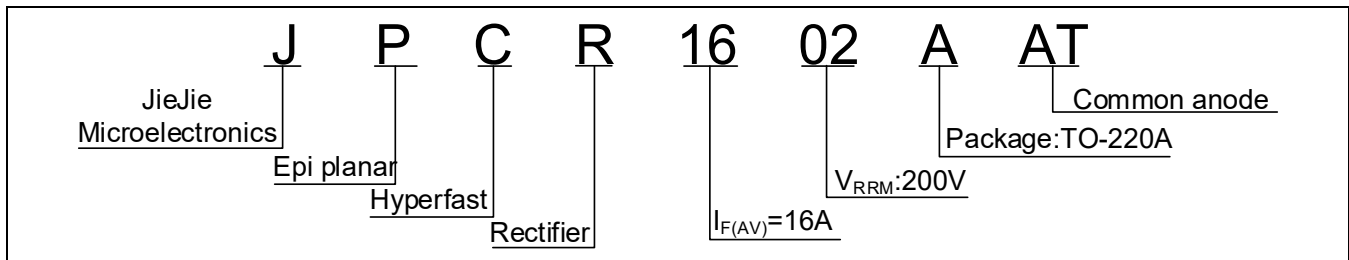
xH1: Month, 1、2、3 ~ 9、A、B、C

3x1:

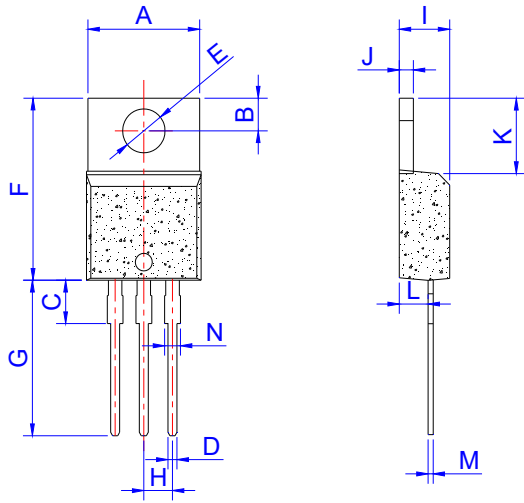
2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

3Hx: Batch number

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



TO-220A

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.7	10.4	0.382	0.409
B	2.5	3.0	0.098	0.118
C	3.5	3.9	0.138	0.154
D	0.7	0.92	0.028	0.036
E	3.72	3.95	0.146	0.156
F	14.51	15.55	0.571	0.612
G	12.95	13.9	0.510	0.547
H	2.4	2.7	0.094	0.106
I	4.38	4.65	0.172	0.183
J	1.15	1.36	0.045	0.054
K	5.86	6.38	0.231	0.251
L	2.35	2.85	0.093	0.112
M	0.32	0.58	0.013	0.023
N	1.18	1.42	0.046	0.056

PACKAGE INFORMATION-TO-220A

OUTLINE	UNIT WEIGHT (g/PCS) typ.	TUBE (PCS)	PER CARTON (PCS)
TUBE	2.1	50	5,000

CHARACTERISTICS CURVE

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

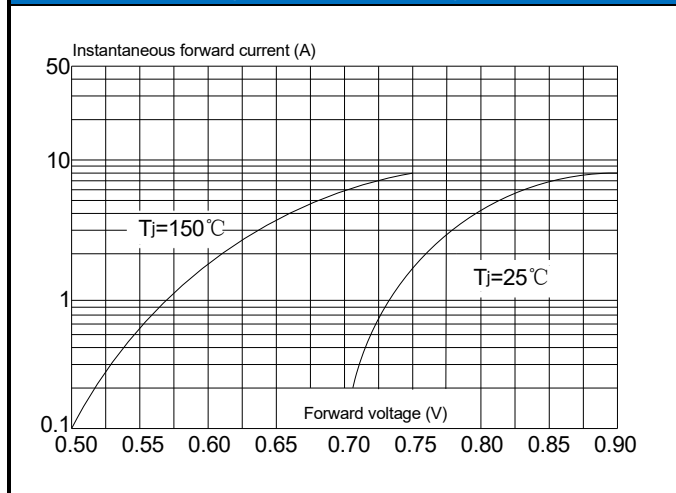


FIG.2: Typical reverse characteristics
(Pin1~2 or Pin3~2)

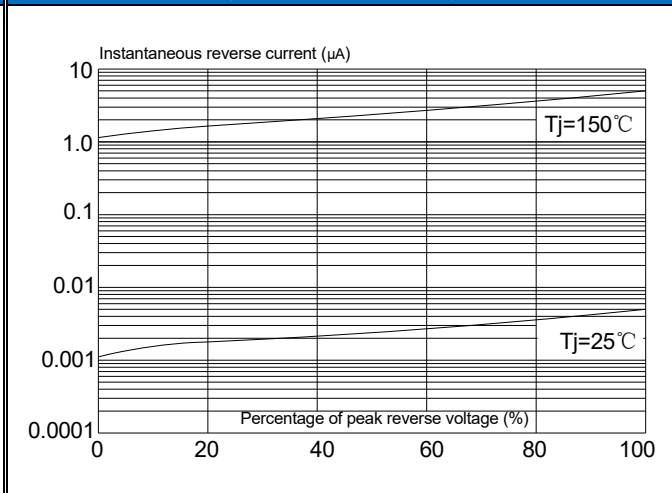


FIG.3: Maximum non-repetitive peak forward surge current
(10ms single half sine-wave, Pin1~2 or Pin3~2)

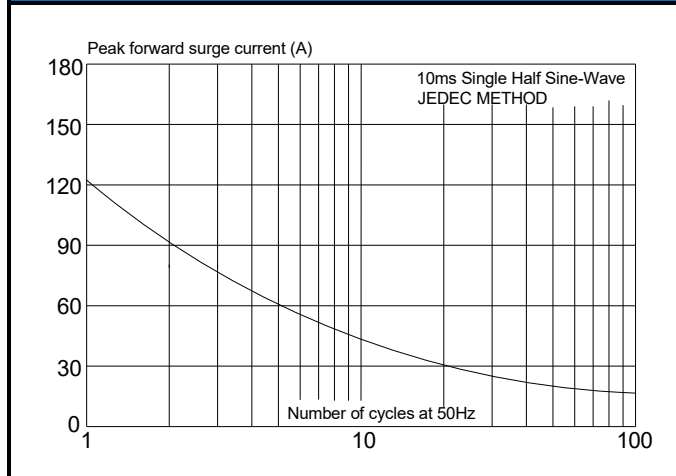


FIG.4: Forward current derating curve
(Pin1,3~2)

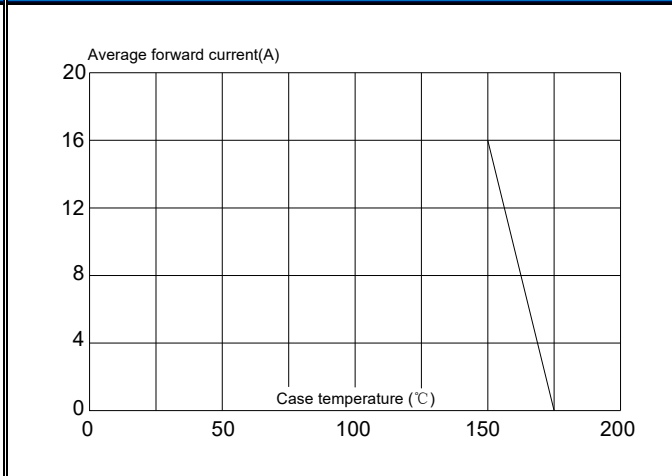
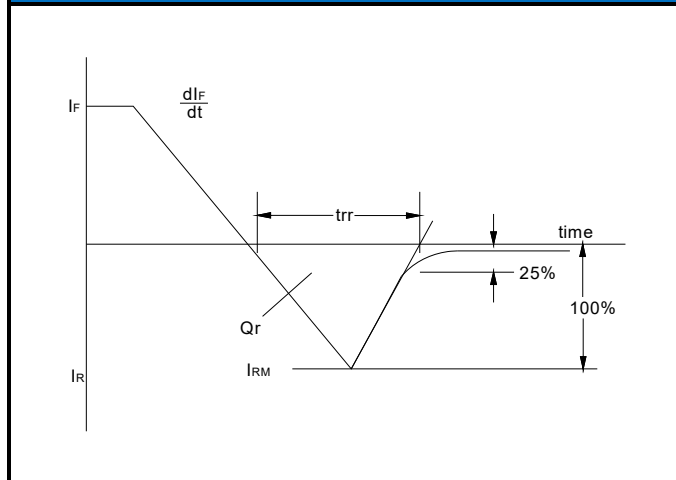


FIG.5: Reverse recovery definitions




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