

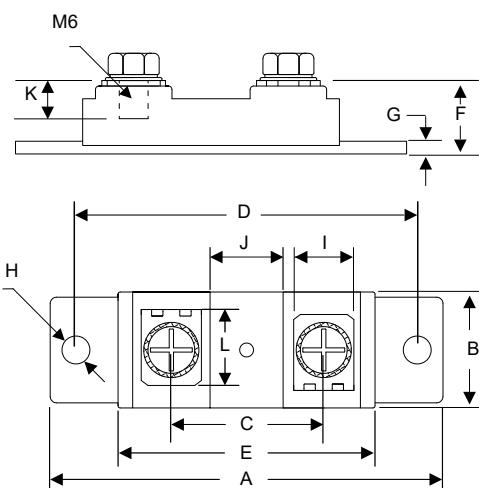
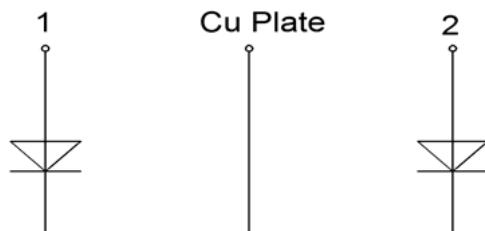
## Features

- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix)
- designates RoHS Compliant. See ordering information)
- Soft Reverse Recovery Characteristics
- Ultrafast Reverse Recovery Time
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package

## 300 Amp FRED Modules 600 Volts

## Applications

- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Power Factor Correction (PFC) Circuit
- Converter & Chopper



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	3.602	3.642	91.50	92.50	
B	1.043	1.083	26.50	27.50	
C	1.358	1.398	34.50	35.50	
D	3.130	3.169	79.50	80.50	
E	2.343	2.382	59.50	60.50	
F	0.650	0.689	16.50	17.50	
G	0.110	0.126	2.80	3.20	
H	0.244	0.268	6.20	6.80	Ø
I	0.543	0.559	13.80	14.20	
J	0.650	0.689	16.50	17.50	
K	0.335	0.374	8.50	9.50	
L	0.717	0.740	18.20	18.80	

Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

## Maximum Ratings

Symbol	Conditions	Values	Units
$V_R$		600	V
$V_{RRM}$		600	V
$I_{F(AV)}$	$T_C=125^\circ C$ , Per Diode	150	A
	$T_C=125^\circ C$ , Per Moudle	300	A
	$T_C=125^\circ C$ , 20KHz, Per Moudle	200	A
$I_{F(RMS)}$	$T_C=125^\circ C$ , Per Diode	220	A
$I_{FSM}$	1/2 Cycle , 50Hz, Sine	3500	A
	1/2 Cycle , 60Hz, Sine	4000	A
$I^2t$	$T_J=45^\circ C$ , $t=10ms$ , 50Hz, Sine	61250	$A^2s$
	$T_J=45^\circ C$ , $t=8.3ms$ , 60Hz, Sine	80000	$A^2s$
$P_D$		2080	W
$T_J$		-40 to +150	$^\circ C$
$T_{STG}$		-40 to +125	$^\circ C$
Torque	Recommended (M6)	3~4.7	N·m
Torque	Recommended (M6)	3~4.7	N·m
Weight		92	g

## Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.06	$^\circ C/W$

## Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
$I_{RM}$	$V_R=600V$	--	--	1	mA
	$V_R=600V$ , $T_J=125^\circ C$	--	--	20	mA
$V_F$	$I_F=150A$	--	1.1	1.4	V
	$I_F=150A$ , $T_J=125^\circ C$	--	--	1.25	V
$trr$	$I_F=1A$ , $V_R=30V$ , $di_F/dt=-200A/\mu s$	--	50	--	ns
$trr$	$V_R=300V$ , $I_F=150A$ , $di_F/dt=-200A/\mu s$ , $T_J=25^\circ C$	--	130	--	ns
		--	14	--	A
$trr$	$V_R=300V$ , $I_F=150A$ , $di_F/dt=-200A/\mu s$ , $T_J=125^\circ C$	--	220	--	ns
$I_{RRM}$		--	22	--	A

## Performance Curves

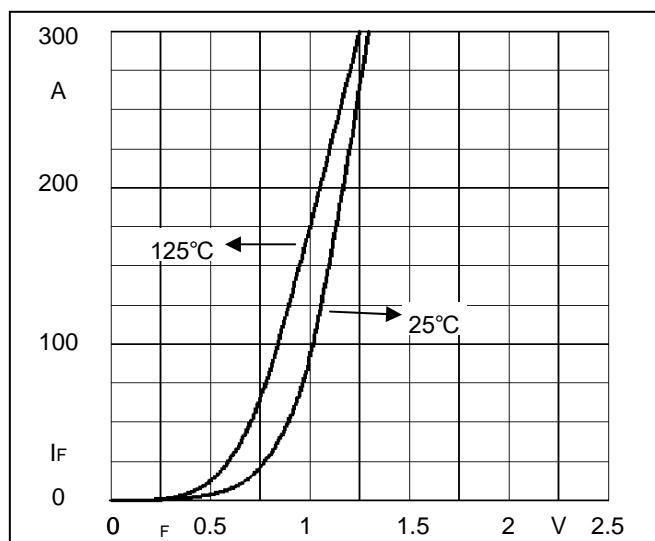


Fig1. Forward Voltage Drop vs Forward Current

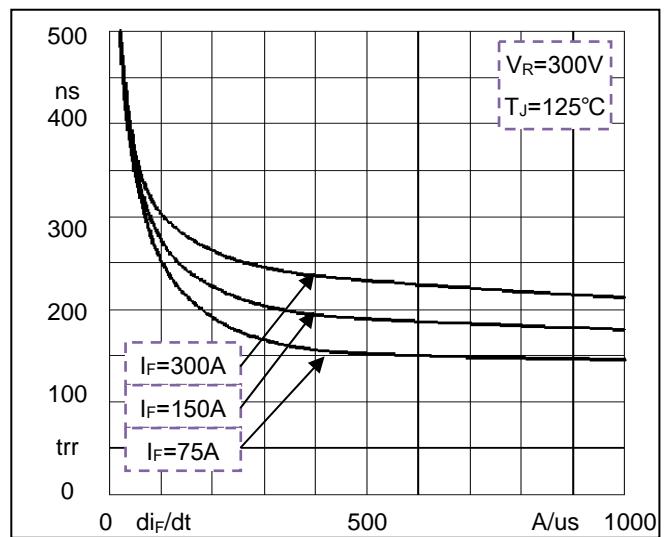


Fig2. Reverse Recovery Time vs  $di_F/dt$

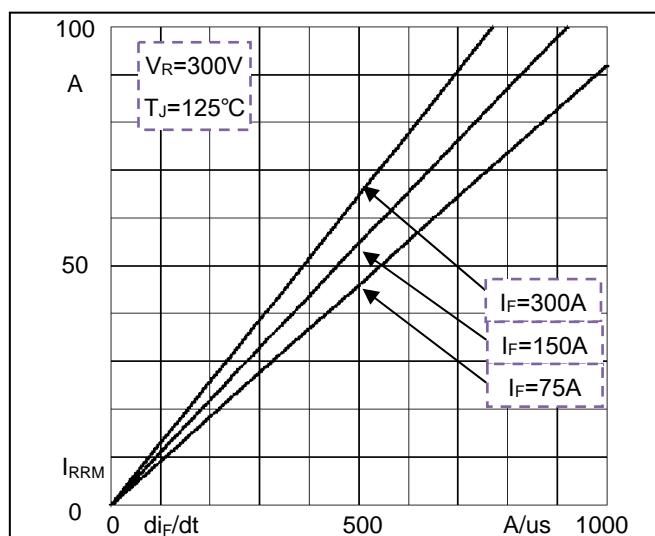


Fig3. Reverse Recovery Current vs  $di_F/dt$

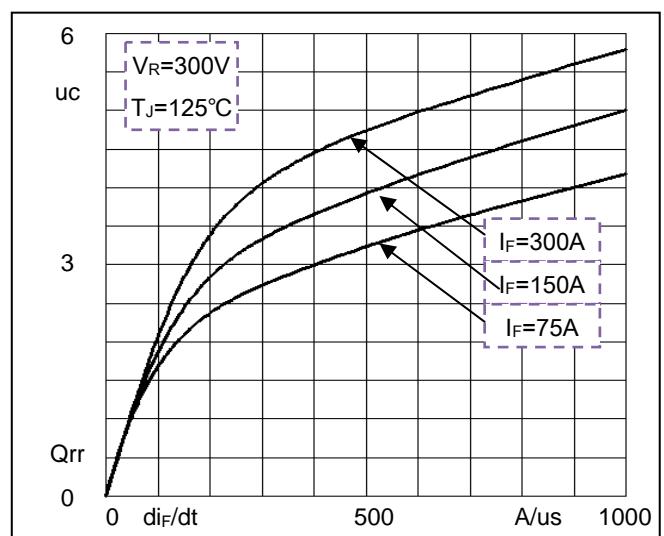


Fig4. Reverse Recovery Charge vs  $di_F/dt$

## Ordering Information

Device	Packing
Part Number-BP	Bulk: 10PCS/BOX ;100PCS/CTN

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