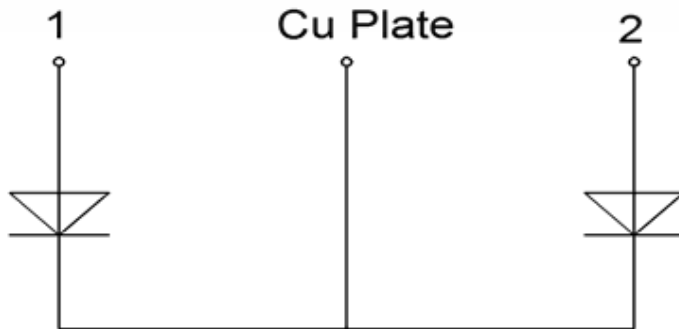
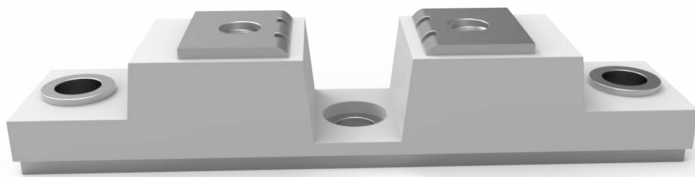


Features

- 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

Applications

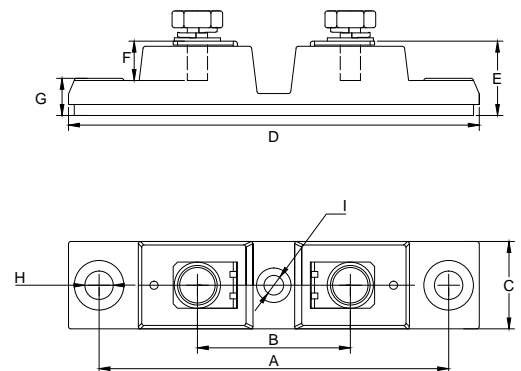
- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Power Factor Correction (PFC) Circuit
- Converter & Chopper



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

200 Amp FRED Modules 600 Volts

F4N



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	3.130	3.169	79.50	80.50	
B	1.358	1.398	34.50	35.50	
C	0.768	0.807	19.50	20.50	
D	3.661	3.701	93.00	94.00	
E	0.649	0.689	16.50	17.50	
F	0.335	0.374	8.50	9.50	
G	0.315	0.354	8.00	9.00	
H	0.236	0.276	6.00	7.00	
I	0.157	0.197	4.00	5.00	

Maximum Ratings

Symbol	Conditions	Values	Units
V_R		600	V
V_{RRM}		600	V
$I_{F(AV)}$	$T_C=125^{\circ}\text{C}$, Per Diode	100	A
	$T_C=125^{\circ}\text{C}$, Per Module	200	A
$I_{F(RMS)}$	$T_C=125^{\circ}\text{C}$, Per Diode	141	A
I_{FSM}	1/2 Cycle, 50Hz, Sine	2100	A
	1/2 Cycle, 60Hz, Sine	2350	A
I^2t	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, 50Hz, Sine	22000	A^2s
	$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, 60Hz, Sine	27600	A^2s
P_D		1400	W
T_J		-40 to +150	$^{\circ}\text{C}$
T_{STG}		-40 to +125	$^{\circ}\text{C}$
Torque	Recommended (M6)	3~4.7	N·m
Torque	Recommended (M6)	3~4.7	N·m
Weight		70	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.2	$^{\circ}\text{C}/\text{W}$
$R_{th(j-c)}$	Per module	0.1	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=600\text{V}$	--	--	0.5	mA
	$V_R=600\text{V}$, $T_J=125^{\circ}\text{C}$	--	--	1	mA
V_F	$I_F=100\text{A}$	--	1.15		V
	$I_F=100\text{A}$, $T_J=125^{\circ}\text{C}$	--	1.0		V
trr	$I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$	--	48	--	ns
trr	$V_R=300\text{V}$, $I_F=100\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=25^{\circ}\text{C}$	--	105	--	ns
I_{RRM}		--	10	--	A
trr	$V_R=300\text{V}$, $I_F=100\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=125^{\circ}\text{C}$	--	200	--	ns
I_{RRM}		--	18	--	A

Performance Curves

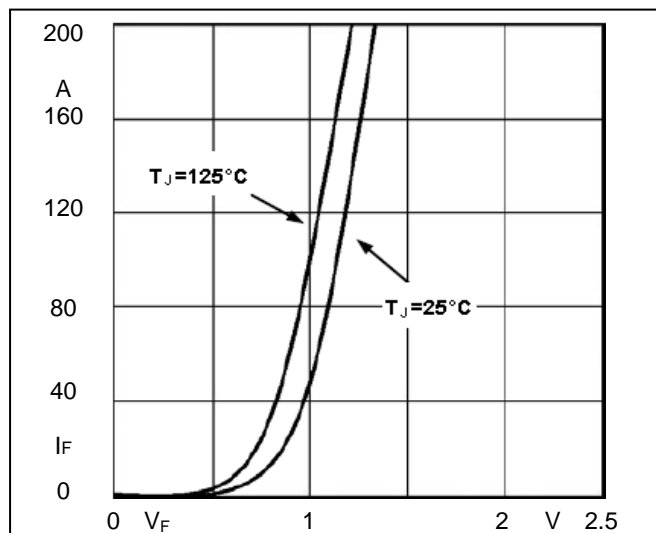


Fig1. Forward Voltage Drop vs Forward Current

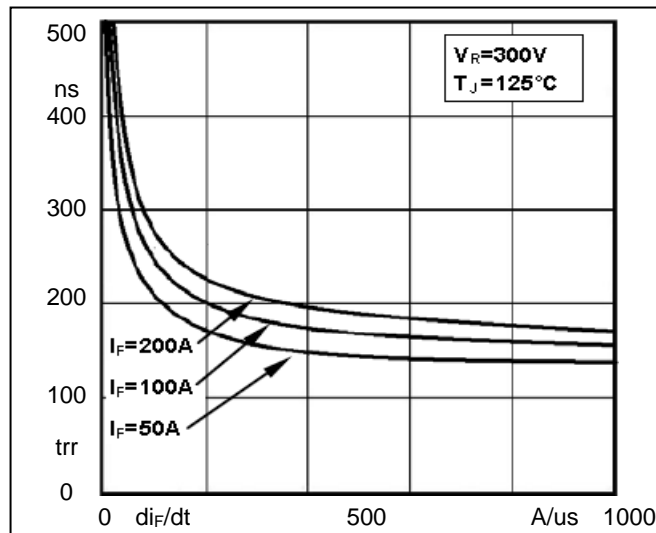


Fig2. Reverse Recovery Time vs diF/dt

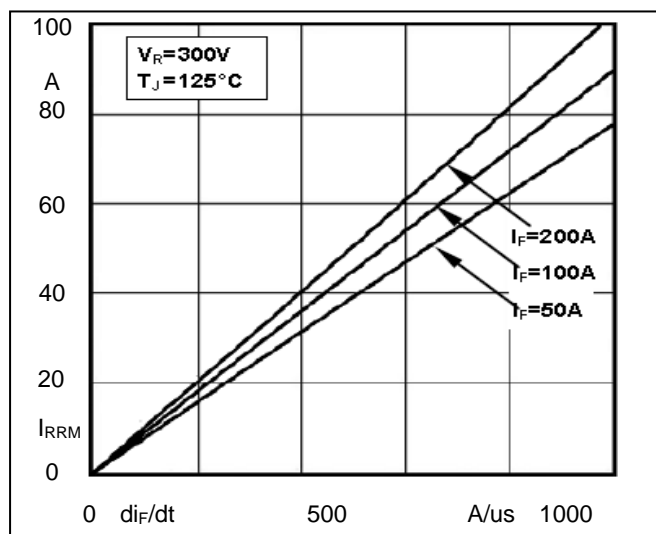


Fig3. Reverse Recovery Current vs diF/dt

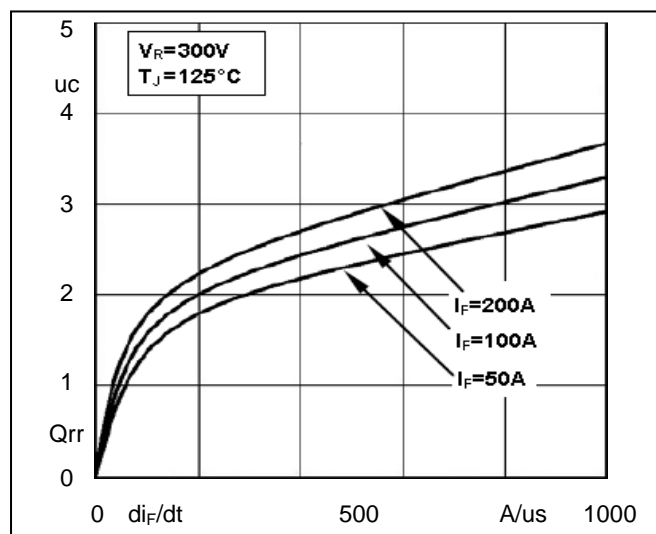


Fig4. Reverse Recovery Charge vs diF/dt

Ordering Information

Device	Packing
Part Number-BP	Bulk: 12PCS/BOX ;144PCS/CTN

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