

Features

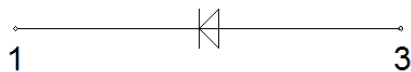
- Lead Free Finish/RoHS Compliant (NOTE 1)("P" Suffix designates RoHS Compliant. See ordering information)
- Soft Reverse Recovery Characteristics
- Ultrafast Reverse Recovery Time
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package

Applications

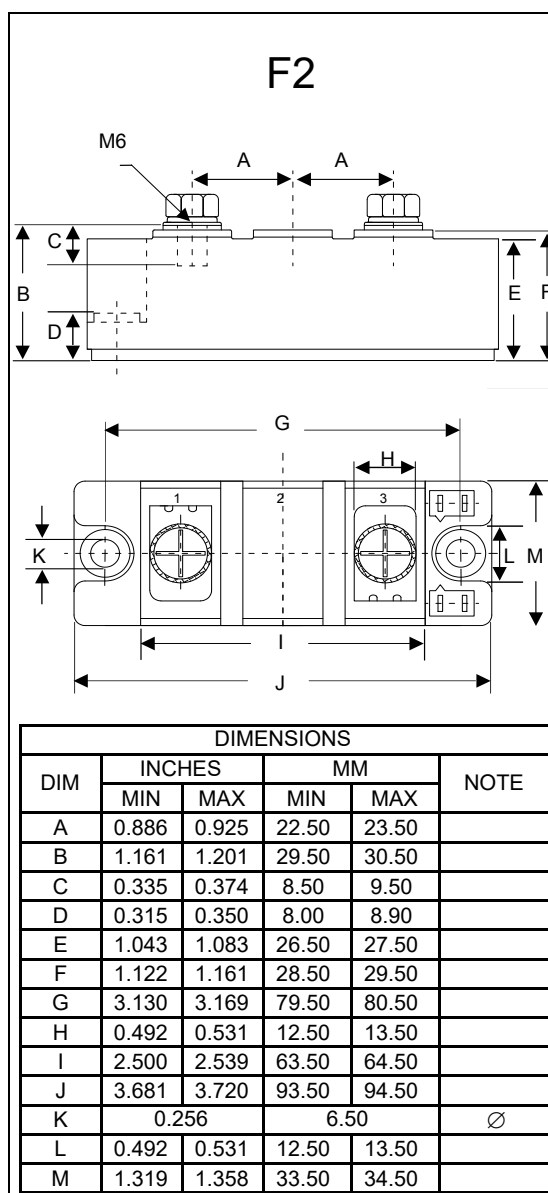
- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Power Factor Correction (PFC) Circuit
- Converter & Chopper



Circuit



**300 Amp
FRED Modules
600 Volts**



Maximum Ratings

Symbol	Conditions	Values	Units
V_R		600	V
V_{RRM}		600	V
$I_{F(AV)}$	$T_C=100^{\circ}\text{C}$	300	A
	$T_C=110^{\circ}\text{C}, 20\text{KHz}$	210	A
$I_{F(RMS)}$	$T_C=110^{\circ}\text{C}$	420	A
I_{FSM}	$T_J=45^{\circ}\text{C}, 1/2 \text{ Cycle}, 50\text{Hz}, \text{Sine}$	3000	A
	$T_J=45^{\circ}\text{C}, 1/2 \text{ Cycle}, 60\text{Hz}, \text{Sine}$	3290	A
I^2t	$T_J=45^{\circ}\text{C}, t=10\text{ms}, 50\text{Hz}, \text{Sine}$	45000	A^2s
	$T_J=45^{\circ}\text{C}, t=8.3\text{ms}, 60\text{Hz}, \text{Sine}$	44800	A^2s
P_D		1100	W
Visol	AC, $T_{on}=1\text{min}$	3000	V
T_J		-40 to +150	$^{\circ}\text{C}$
T_{STG}		-40 to +125	$^{\circ}\text{C}$
Torque	Recommended (M6)	$4\pm 15\%$	N·m
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Weight		160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Junction - to - Case	0.10	$^{\circ}\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=600\text{V}$	--	--	0.5	mA
	$V_R=600\text{V}, T_J=125^{\circ}\text{C}$	--	--	5	mA
V_F	$I_F=300\text{A}$	--	1.15	1.65	V
	$I_F=300\text{A}, T_J=125^{\circ}\text{C}$	--	0.9	1.45	V
trr	$I_F=1\text{A}, V_R=30\text{V}, di_F/dt=-200\text{A}/\mu\text{s}$	--	55	--	ns
trr	$V_R=300\text{V}, I_F=300\text{A}, di_F/dt=-200\text{A}/\mu\text{s}, T_J=25^{\circ}\text{C}$	--	145	--	ns
I_{RRM}		--	17	--	A
trr	$V_R=300\text{V}, I_F=300\text{A}, di_F/dt=-200\text{A}/\mu\text{s}, T_J=125^{\circ}\text{C}$	--	240	--	ns
I_{RRM}		--	30	--	A

Performance Curves

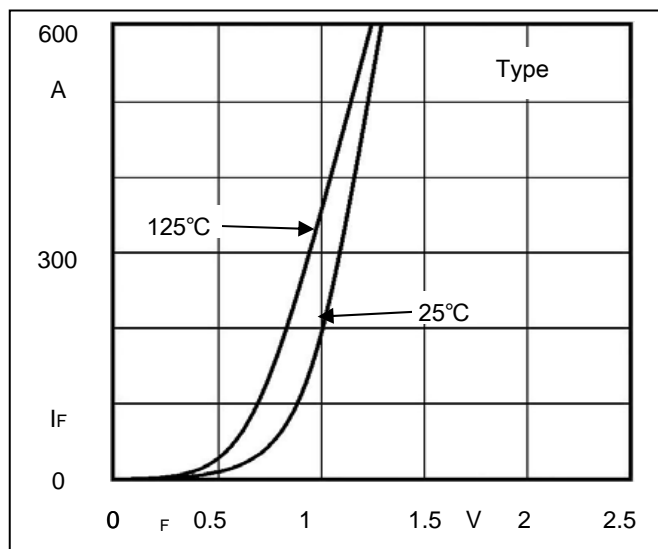


Fig1. Forward Voltage Drop vs Forward Current

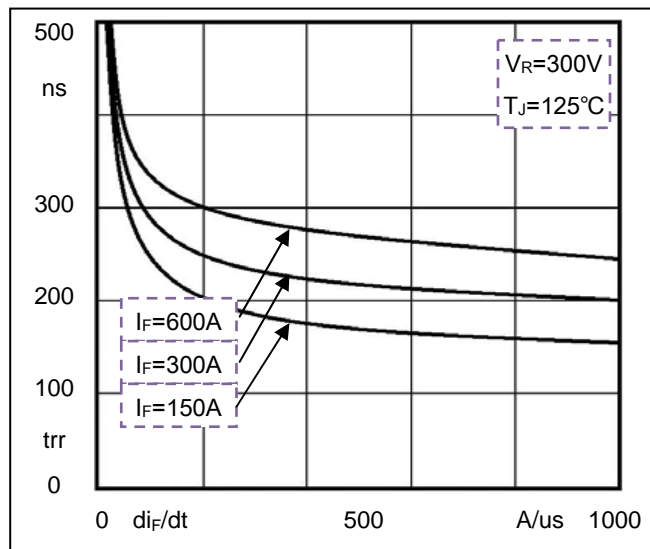


Fig2. Reverse Recovery Time vs di_F/dt

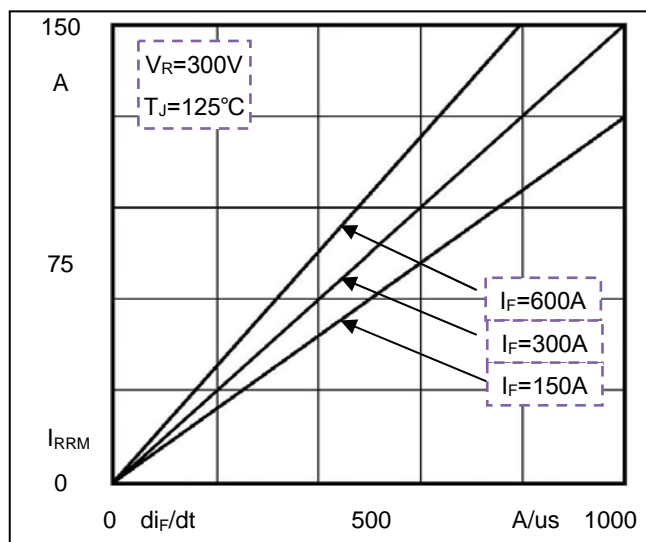


Fig3. Reverse Recovery Current vs di_F/dt

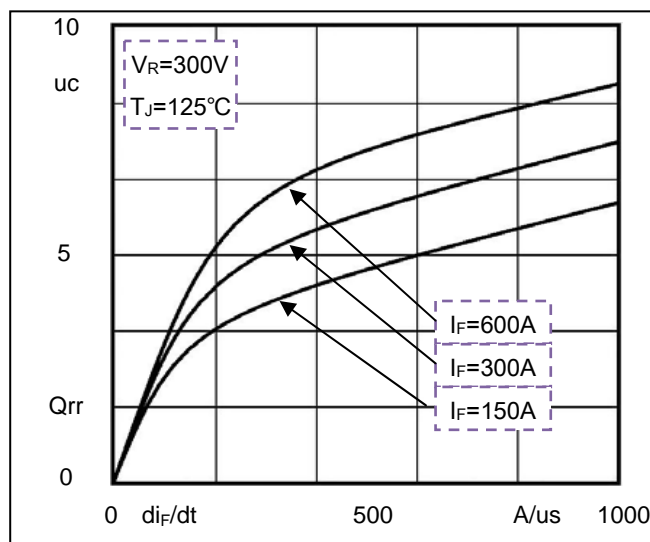


Fig4. Reverse Recovery Charge vs di_F/dt

Ordering Information

Device	Packing
Part Number-BP	Bulk: 8PCS/BOX ;80PCS/CTN

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