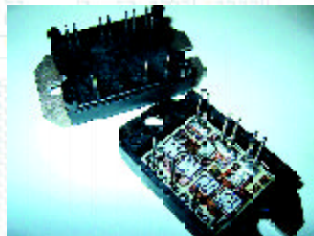


INTERNATIONAL RECTIFIER

The Strongest Connection For All Your Welding Designs

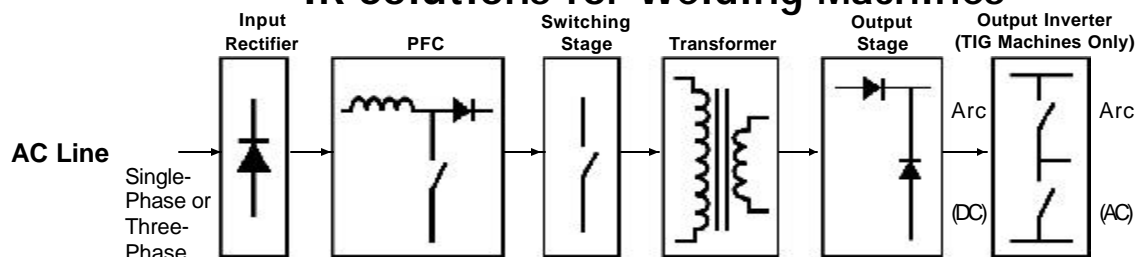
THE IR ADVANTAGE

- ▶ Product line addresses all stages of welding machines
- ▶ Optimized for welding applications for higher power density and reliability
- ▶ More components in a single housing enhance reliability, ease of assembly, and machine compactness



International Rectifier's line of welding products provides solutions for all stages of any welding machine, from the input stage through the output stage. Each product is designed to improve performance and reliability. Our experienced team using modern simulation tools in an advanced lab provides the best welding solutions. With IR's innovative welding products, you have a one-stop supplier with the capability to support all design and engineering requirements for welding applications.

IR Solutions for Welding Machines



INPUT

Discretes
Diode: 60EPS...
SCR: 40TPS...

Single-Phase Bridges
GBPC25/3512W

Three-Phase Bridges
36MT160
40MT160PA/B
70MT160PA/B
100MT160PA/B
110/130MT160KB

**Controlled/
Half-Controlled Bridges**
53/93/113MT160K
52/92/112MT160K
51/91/111MT160K

SWITCH

Discrete IGBTs
IRG4PC50U/W + HFA..TB60 Diode
IRG4PC50UD
IRGP20B120U-E + HFA..TB120 Diode
IRGP20B120UD-E

Discrete MOSFETs
IRFP450/460
IRFP22N50A
IRFPS40N50L (ZVS)
IRFP31N50L (ZVS)
IRFBA31N50L (ZVS)
IRFP32N50K (Hard Switching)
IRFPS43N50K (Hard Switching)

PFC Diode
HFA..PB60/120

Upcoming Modules
25MT060WF Full-Bridge
19MT050XF Full-Bridge
20MT120UF Full-Bridge
50MT060WH Half-Bridge
29MT050XH Half-Bridge
40MT120UH Half-Bridge
50MT060ULS Low-Side Chopper

OUTPUT

200V, 300V, 400V, 600V, FREDs Pt

Discretes
60EPU02/04
60APU02/04
80EBU02/04
150EBU02/04
70CRU02/04
30EPH03/06

Modules
UFB200FA20/40
UFB120FA20/40
UFB60FA20/40
HFA240/
320NJ40C
HFA210/
380NJ60C

Modules Under Development
IRUD400CW40
IRUD320CW60
IRUD400CW20

OUTPUT SWITCH STAGE

FOR TIG MACHINES

Single Switch
GA200SA60S

Upcoming Half-Bridge Modules
GA100TS60SQ
GA200HS60S

www.irf.com For technical support call our Technical Assistance Center in N. America at +1 310 252 7105 and in Europe at +44 208 645 8015

International
IR Rectifier
THE POWER MANAGEMENT EXPERTS

Inverter-Based Welding Technology Specific Power Modules

Main Inverter Stage	Machines' Data Current Power Supply Data		Circuit Topology Reference		
	Total Output Power [kW]	Max. Output Current [A _{avg}]	Full Bridge Isw @ Tj=125°C[A _{avg}]	Full Bridge	Half Bridge
For USA					
Single Phase main, 120Vac	5.6	200	22/13		600V Warp IGBTs
	7.5	250	29/17		
	9.6	300	21		
Three Phase main, 208Vac	11.9	350	27		600V U Speed IGBTs in IAP Package (NPT coming soon)
	14.4	400	32		
	20	500	45		
	23.7	560	53		
For Europe					
Single Phase main, 230Vac	2.7	100	6	600V Warp IGBTs	600V Warp IGBTs 500V ZVS FREDFets
	4.3	160	10	500V ZVS FREDFets	
	5.6	200	13/8		
Three Phase main, 400Vac	7.5	250	11	1200V NPT IGBTs	1200V NPT IGBTs
	9.6	300	14		

	Machines' Data Current Power Supply Data		Input Stage: 1200 to 1600V High Surge Capability Diodes		Output Stage: 200, 400, 600V Benchmark Efficiency Pt FRED	Output Inverter Stage: for TIG Applications	
	Total Output Power [kW]	Max. Output Current [A _{avg}]	Europe	USA		IAP Package h/b Configuration	
Single Phase main	2.7	100	GBPC25 and GBPC 3512W		Discretes (TO-247, TO-218, PowIRtab) SOT-227 insulated module Ranges: 60-200A, 200-600V	600V S Speed IGBT $V_{CE\ sat} = 1.1V @ 100 A_{DC}$ continuous current, $T_c = 100\ ^\circ C$ with fast f/w diode	
	4.3	160					
	5.6	200	GBPC3512W 36MT160 40MT160PB			600V S Speed IGBT $V_{CE\ sat} = 1.1V @ 200 A_{DC}$ continuous current, $T_c = 100\ ^\circ C$ without f/w diode	
	7.5	250					
Three Phase main	9.6	300	40/70/100MT160PB		TO-244, not insulated IRUD180/240/320CW20/40/60 Ranges: 200-400A, 200-600V		
	11.9	350					
	14.4	400					
	20	500	110/130MT160K				
	23.7	560					