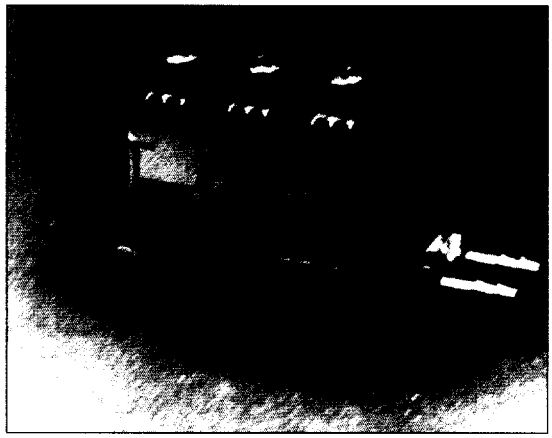
POWER MODULES

In line with our policy of positive development in the power electronics industry, we have supplemented our product range to included a family of Isolated Base Power Modules.

The latest DCB technology, combined with an efficient cooler block, has enabled superior current ratings to be achieved for Welding AC Switches, Induction Heating Rectifiers, and other industrial applications.

Key Features:

- ❑ Current ratings from 19A to 500A
- ❑ Voltages up to 2200V
- ❑ Latest direct copper bonded isolation material
- ❑ Enhanced thermal and mechanical properties
- ❑ Power cycling > 50,000 cycles
- ❑ Industry Standard Outlines – UL Recognised
- ❑ Dual or Single Thyristor
- ❑ Thyristor / Diode
- ❑ Dual or Single Diode



Type	V_{RRM} (V)	I_{FAV} @ Tc (A)	(°C)	I_{FSM} T_{VJM} 10 ms (A)	V_{TO} (V)	r_T (mW)	$R_{th\ (J-C)}$ per chip (K/W)	$R_{th\ (C-S)}$ per chip (K/W)	T_{VJM} (°C)	Fig No.
WPD 26-xx	1200/1800	36	100	580	0.80	6.10	1.00	0.20	150	1
WPD 44-xx	1200/1800	59	100	1000	0.80	4.30	0.59	0.20	150	1
WPD 56-xx	1200/1800	71	100	1200	0.80	3.00	0.51	0.20	150	1
WPD 72-xx	1200/1800	99	100	1540	0.80	2.30	0.35	0.20	150	1
WPD 95-xx	1200/2200	120	105	2500	0.75	1.95	0.26	0.20	150	1
WPD 142-xx	1200/1800	165	100	4100	0.80	1.30	0.21	0.10	150	2
WPD 172-xx	1200/1800	190	100	5600	0.80	0.80	0.210	0.10	150	2
WPD 220-xx	1200/1600	270	100	7500	0.75	0.90	0.129	0.04	150	4
WPD 250-xx	1200/1600	290	100	9000	0.75	0.75	0.129	0.04	150	4
WPD 255-xx	1200/2200	270	100	8400	0.80	0.60	0.140	0.04	150	3
WPD 310-xx	1200/1600	305	100	9600	0.75	0.63	0.129	0.04	150	4
WPD 312-xx	1200/2200	310	100	9200	0.80	0.60	0.120	0.04	150	3
WPD 500-xxS	1200/2200	560	85	13000	0.80	0.38	0.072	0.024	140	5

Types		V_{DRM} V_{RRM}	I_{TAV} @	I_{TSM} T_{VJM}	V_{TO}	r_T	$R_{th\ (J-C)}$	$R_{th\ (C-S)}$	T_{VJM}	Fig
Thyristor/ Thyristor	Thyristor/ Diode	(note 3) (V)	Tc 85°C (A)	10 ms V_R=0 (A)	(V)	(mW)	per chip (K/W)	per chip (K/W)	°C	No.
WPT 19-xx		**1200/1600**	**18**	**350**	**0.85**	**18.00**	**1.300**	**0.20**	**125**	**1**
WPT 26-xx	WPH 26-xx	1200/1600	27	460	0.85	11.00	0.880	0.20	125	1
WPT 44-xx	**WPH 44-xx**	**1200/1800**	**49**	**1000**	**0.85**	**5.30**	**0.530**	**0.20**	**125**	**1**
WPT 56-xx	WPH 56-xx	1200/1800	60	1350	0.85	3.70	0.450	0.20	125	1
WPT 72-xx	**WPH 72-xx**	**1200/1800**	**85**	**1540**	**0.85**	**3.20**	**0.300**	**0.20**	**125**	**1**
WPT 94-xx	WPH 94-xx	2000/2200	104	1540	0.85	3.20	0.220	0.20	125	1
WPT 95-xx	**WPH 95-xx**	**1200/1800**	**116**	**2000**	**0.80**	**2.40**	**0.220**	**0.20**	**125**	**1**
WPT 132-xx	WPH 132-xx	1200/1800	130	4800	0.80	1.50	0.230	0.10	125	2
WPT 161-xx	**WPH 161-xx**	**2000/2200**	**165**	**5250**	**0.80**	**1.60**	**0.155**	**0.07**	**125**	**2**
WPT 162-xx	WPH 162-xx	1200/1800	181	5250	0.88	1.15	0.155	0.07	125	2
WPT 170-xx	**WPH 170-xx**	**1200/1800**	**203**	**5000**	**0.80**	**1.00**	**0.164**	**0.04**	**130**	**3**
WPT 220-xx	WPH 220-xx	1200/1600	250	7000	0.90	1.00	0.139	0.04	140	4
WPT 224-xx		**2000/2200**	**240**	**7000**	**0.80**	**0.76**	**0.139**	**0.04**	**130**	**3**
WPT 225-xx	WPH 225-xx	1200/1800	221	7000	0.80	0.76	0.157	0.04	130	3
WPT 250-xx	**WPH 250-xx**	**1200/1800**	**287**	**7800**	**0.85**	**0.82**	**0.129**	**0.04**	**140**	**4**
WPT 255-xx	WPH 255-xx	1200/1800	250	7800	0.80	0.68	0.14	0.04	130	3
WPT 310-xx	**WPH 310-xx**	**1200/1800**	**320**	**8000**	**0.80**	**0.82**	**0.112**	**0.04**	**140**	**4**
WPT 312-xx	WPH 312-xx	1200/1800	320	8000	0.80	0.68	0.120	0.04	140	3
WPT 450-xxS	**Single**	**2000/2200**	**464**	**13000**	**0.77**	**0.42**	**0.072**	**0.02**	**130**	**5**
WPT 500-xxS	Single	1200/1800	560	13000	0.80	0.38	0.072	0.02	140	5

Notes:

1 Surge Ratings - I_{TSM}/I_{FSM} for 60Hz duty, 8.3ms, multiply the 10ms figure by 1.066. I_{TSM}/I_{FSM} for T_{VJ} 45°C is approximately I_{TSM}/I_{FSM} for T_{VJM} x 1.11.
I^2t for 50Hz equals $(I_{TSM})^2 \div 200$. For 60Hz multiply this by 0.943

2 Voltage Rating - $V_{DRM}/V_{RRM} \div 100$. Example: 12 = 1200 volts. Voltages lower than 1200 on request.

3 Isolation - Voltage 3600V~.

4 Planar - passivated chips.

5 Full Data Sheets - available from your local Sales Office or Distributor.

POWER MODULES - FREDs

Fast Recovery Epitaxial Diode Modules have been introduced into our product portfolio to satisfy the requirements of the rectifier stages of high frequency power supplies, and as anti-parallel diodes across IGBTs.

Key Features:

- ❑ Current ratings from 30A to 500A
- ❑ Dual and Single packages
- ❑ Voltages up to 1200V
- ❑ Short recovery times with soft recovery behaviour
- ❑ Industry Standard Outlines - UL recognised
- ❑ Direct copper bonded ceramic isolation allows for reduced thermal impedances and improved thermal cycling - 2500V~ isolation.