

Diode and Thyristor Modules

INT-A-PAK Modules
(34 mm)



INT-A-PAK

MAGN-A-PAK Modules
(Up to 320 A)



MAGN-A-PAK

**High Current, High Voltage
Three-Phase Bridges**
(Up to 300 A, 1800 V)



BRIDGES

**Ultrafast 1200 V HEXFRED®
Dual Diode Modules in
SOT-227 (200 A, 1200 V)**



HEXFRED®

AAP Gen 7 Modules
(TO-240AA)



AAP Gen7

**Super MAGN-A-PAK
Modules (Up to 600 A)**



SUPER MAGN-A-PAK

**Ultrafast FRED Pt® Diode
in SOT-227 (200 A, 400 V)**



FRED PT® DIODE

**TMBS® Modules in
SOT-227 (300 A, 170 V, and
200 V)**










TMBS®










DIODE AND THYRISTOR MODULES

Focus Products

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Standard Diode Modules						
Series	V_{RRM} (V)	$I_{F(AV)}$ (A)	Max. V_F (V) at 25 °C	I_{FSM} (A)	Package	
 VS-VSKD91/16	1600	60	1.60	1300	AAP Gen 7 (TO-240AA)	UL-approved; isolated phase-leg module; common cathode and common anode configurations available; lower current and voltage available in same package
 VS-VSKD166/16PbF	1600	165	1.43	4000	INT-A-PAK	UL-approved; isolated phase-leg module; common cathode and common anode configurations available; lower voltage available in same package
 VS-VSKD236/16PbF	1600	230	1.46	5500	INT-A-PAK	UL-approved; isolated phase-leg module; common cathode and common anode configurations available; lower current available in same package
 VS-VSKD250-20PbF	2000	250	1.29	7015	MAGN-A-PAK	UL-approved; isolated phase-leg module; common cathode and common anode configurations available; lower voltage available in same package
 VS-VSKD320-20PbF	2000	320	1.28	10 110	MAGN-A-PAK	UL-approved; isolated phase-leg module; common cathode and common anode configurations available; lower voltage available in same package
 VS-301MT180C	1800	300	1.54	2400	MTC	UL-approved; three-phase bridge module; lower voltage available in same package
 VS-VSKD600-20PbF	2000	600	1.45	20 100	Super MAGN-A-PAK	UL-approved; isolated phase-leg module; lower voltage available in same package

Thyristor Modules						
Series	V_{RRM} (V)	$I_{F(AV)}$ (A)	Max. V_F (V) at 25 °C	I_{FSM} (A)	Package	
 VS-VSKT105/16	1600	105	1.8	2000	AAP Gen 7 (TO-240AA)	UL-approved; isolated phase-leg SCR module; diode-thyristor configuration available; lower current and voltage available in same package
 VS-VSKT136/16PbF	1600	135	1.57	3200	INT-A-PAK	UL-approved; isolated phase-leg SCR module; diode-thyristor configuration available; lower current and voltage available in same package
 VS-VSKT162/16PbF	1600	160	1.54	4870	INT-A-PAK	UL-approved, isolated phase-leg SCR module; diode-thyristor configuration available; lower current and voltage available in same package
 VS-VSKT320-16PbF	1600	320	1.37	9000	MAGN-A-PAK	UL-approved; isolated phase-leg SCR module; diode-thyristor configuration available; lower current and voltage available in same package
 VS-VSKT500-16PbF	1600	500	1.5	17 800	Super MAGN-A-PAK	UL-approved; isolated phase-leg SCR module; diode-thyristor configuration available
 VS-VSKT570-18PbF	1800	570	1.5	17 800	Super MAGN-A-PAK	UL-approved; isolated phase-leg SCR module; diode-thyristor configuration available; lower voltage available
 VS-VSKS500/08PbF	800	500	1.1	16 646	MAGN-A-PAK block	UL-approved; isolated single SCR module









DIODE AND THYRISTOR MODULES







Focus Products

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Ultrafast Modules

Series	V _{RRM} (V)	I _{F(AV)} (A)	Max. V _F (V) at 25 °C	t _{rr} (ns) at 25 °C - High I _F	Q _{rr} (nC) at 125 °C - High I _F	Package	
	VS-UFH280FA30	280	300	1.27	58	429	SOT-227
	UL-approved; T _J = 175 °C; isolated dual ultrafast FRED Pt® diode module; low thermal resistance; low V _F ; low t _{rr} /Q _{rr}						
	VS-UFB280FA40	400	280	1.24	93	1740	SOT-227
	UL-approved; T _J = 175 °C; isolated dual ultrafast FRED Pt® diode module; 200 V also available; low thermal resistance						
	VS-UFL230FA60	600	230	1.44	104	2200	SOT-227
	UL-approved; T _J = 175 °C; isolated dual ultrafast FRED Pt® diode module; lower t _{rr} (83 ns) also available; low thermal resistance						
	VS-UFB310CB40	400	310	1.3	89	400	SOT-227
UL-approved; non-isolated; T _J = 175 °C; common cathode dual ultrafast FRED Pt® diode module; 600 V also available							
	VS-HFA220FA120	1200	220	4.7	157	2850	SOT-227
	UL-approved; isolated dual ultrafast FRED Pt® diode module; 200 V also available; low thermal resistance; lower current also available						
	VS-VSUD400CW60	600	400	1.45	90	4730	TO-244
	UL-approved; non-isolated; T _J = 175 °C; common cathode FRED Pt® diode module						
	VS-VSKDU162/12PbF	1200	110	2.5	150	2000	INT-A-PAK
	UL-approved; isolated ultrafast HEXFRED® diodes phase-leg module						
	VS-UFB250FA60	600	170	1.19	166	3500	SOT-227
	UL-approved; T _J = 175 °C; isolated dual ultrafast FRED Pt® diodes module						
	VS-UFB211FA40	400	280	1.24	93	1740	SOT-227
	UL-approved; T _J = 175 °C; isolated dual ultrafast FRED Pt® diodes module; extremely low thermal resistance						
	VS-HFA70FA120	1200	70	3	134	790	SOT-227
	UL-approved; isolated dual ultrafast HEXFRED® diodes module; antiparallel pin-out						
	VS-HFA70EA120	1200	70	3	145	910	SOT-227
	UL-approved; non-isolated; T _J = 175 °C; common cathode FRED Pt® diodes module						
	VS-VSKEF500/06PBF	600	500	1.4	138	3340	INT-A-PAK
UL-approved; isolated ultrafast diode; FRED Pt® Gen 4 single-switch module with ultrasoft reverse recovery current							

Schottky Modules

Series	V _{RRM} (V)	I _{F(AV)} (A)	Max. V _F (V) at 25 °C	I _{FSM} (A)	Package	
	VS-241NQ045PbF	45	240	0.8	3450	HALF-PAK (D-67)
	UL-approved; non-isolated; cathode-to-base Schottky diode module; T _J = 175 °C					
	VS-243NQ100PbF	100	240	0.95	3300	HALF-PAK (D-67)
	UL-approved; non-isolated; cathode-to-base Schottky diode module; T _J = 175 °C					
	VS-QA300FA170	170	300	0.98	1575	SOT-227
	UL-approved; isolated Trench MOS Barrier Schottky (TMBS®) diode module; T _J = 175 °C; low thermal resistance; very low V _F					
	VS-QA250FA20	200	250	1.2	900	SOT-227
	UL-approved; isolated Trench MOS Barrier Schottky (TMBS®) diode module; T _J = 175 °C; low thermal resistance; very low V _F					
	VS-301CNQ045PbF	45	300	0.9	3200	TO-244
	UL-approved; non-isolated; common cathode Schottky diode module; T _J = 175 °C					
	VS-403CNQ100PbF	100	400	1.07	3300	TO-244
UL-approved; non-isolated; common cathode Schottky diode module; T _J = 175 °C						
	VS-VSKDS409/150	150	400	1.33	2300	AAP Gen 7 (TO-240AA)
	UL-approved; isolated; dual diode (phase-leg) Schottky diode module; T _J = 175 °C					
	VS-VSKCS409/150	150	400	1.33	2300	AAP Gen 7 (TO-240AA)
UL-approved; isolated; dual diode (common cathode) Schottky diode module; T _J = 175 °C						



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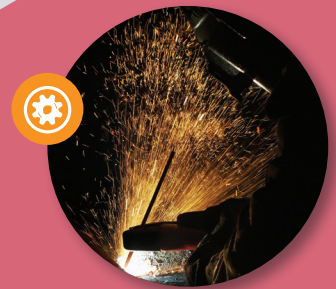
Vishay Rectifier Power Modules: the Best Solution for Input / Output Rectification

Advantages of Vishay Modules

- Wide current and voltage range (standard diode / SCR modules, ultrafast, and Schottky)
- UL-approved - high isolation voltage
- Wide variety of V_F / t_{rr} trade-offs on ultrafast diode modules
- FRED Pt® and HEXFRED® provide ultrasoft recovery current shape
- Gen 2 Trench MOS Barrier Schottky (TMBS®) diode modules provide low forward voltages and low leakage currents

For the Following Applications

- Welding (input and output rectification)
- UPS
- Motor drives
- Switch mode power supplies
- DC/DC converters
- Electric vehicle chargers
- Battery chargers
- Plasma cutters



Vishay provides reliable and complete solutions for input and output rectification with state-of-the-art of silicon technology and power packages

Useful Links

- Modules, Thyristor
www.vishay.com/modules/thyristor-modules/
- Modules, Diode
www.vishay.com/modules/diode-modules/
- Power Modules
www.vishay.com/doc?49382

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