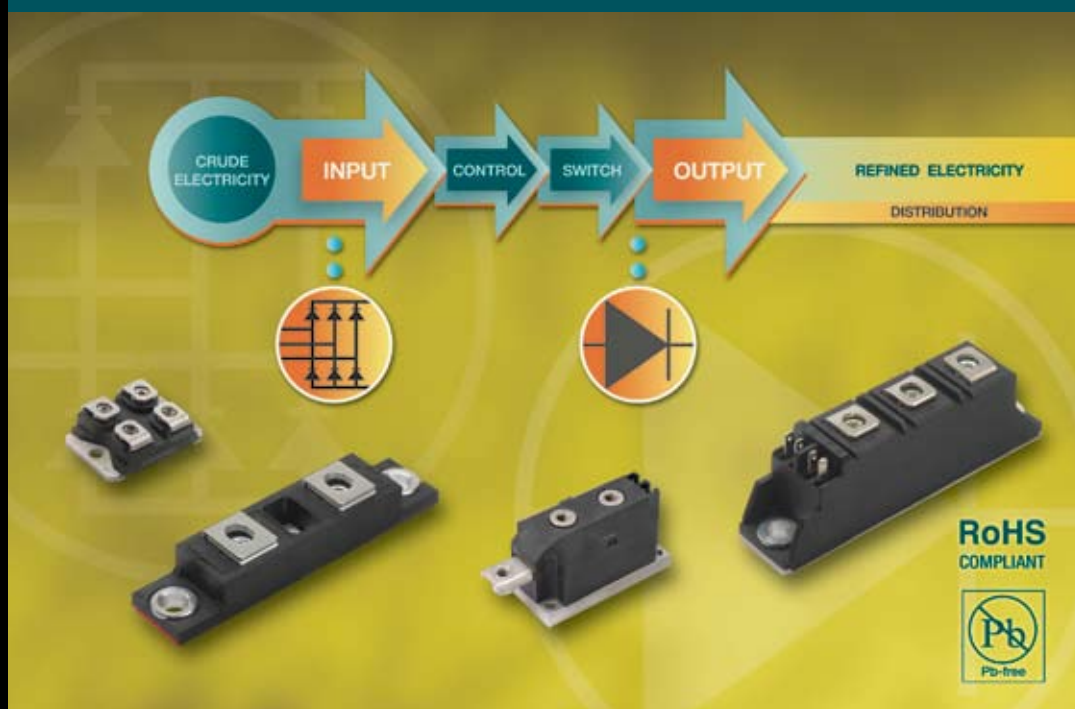




VISHAY INTERTECHNOLOGY, INC.



POWER DIODE AND SILICON-CONTROLLED RECTIFIER (SCR) MODULES

- SOT-227
- TO-244
- Half-Pak
- T-Module
- Add-A-Pak
- Int-A-Pak
- Magn-A-Pak
- Super Magn-A-Pak



POWER DIODE AND SCR MODULES

Versatile and high-efficiency power diode and SCR modules from Vishay Intertechnology feature industry-standard outlines with a choice of diode and thyristor rectifiers. Offering single-rectifying/switch component, half-bridge, and center-tapped configurations, these modules are the ideal choice for input rectification applications at either low or high voltages.

Vishay modules fulfill a single or composite function within a single package that offers a thermally conductive, but electrically isolated, path to the outside circuit. This electrical isolation between the baseplate and the active semiconductors provides a key advantage over discrete components. The modules are RoHS-compliant and meet industry standards for safety, including UL approval.

State-of-the-art compression bonding (for current ratings higher than 250 A) and ultrasonic aluminum wire bonding technologies allow the modules to achieve outstanding performance. Vishay's high-power modules are recognized throughout the world for their ruggedness, high reliability, and consistency of mechanical specifications and electrical characteristics.

Features

- Wide range of industry-standard package styles
- Direct mounting on heatsink
- Choice of rectifier and thyristor technologies
- Optimized high-voltage diode and SCR
- Fast-recovery diode modules available
- High isolation voltage (2500 V)
- RoHS-compliant
- Low thermal resistance
- Low-/high-temperature performance (-40 °C to +150 °C)
- UL approved

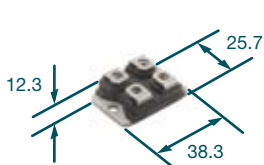
Options

- Customizable for specific application needs
- Gate and auxiliary cathode accessories available upon request

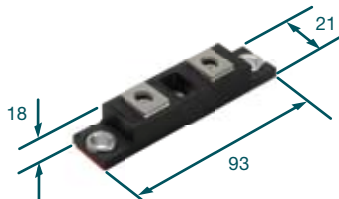
Applications

- Single- and three-phase input rectification
- Industrial welding
- Switch-mode power supplies
- Motor drives
- UPS
- Anti-parallel thyristor (AC switch)

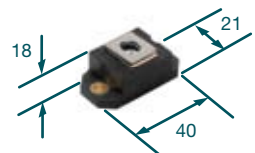
Dimensions in Millimeters



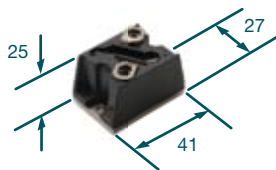
SOT-227



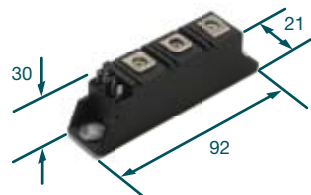
TO-244



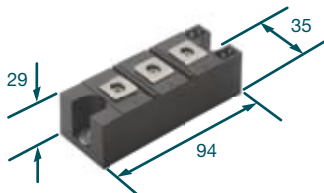
Half-Pak



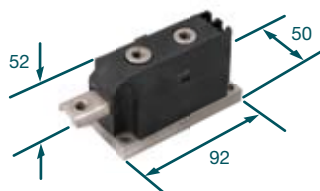
T-Module



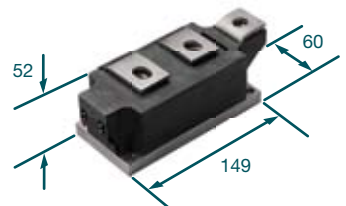
Add-A-Pak



Int-A-Pak



Magn-A-Pak



Super Magn-A-Pak

Half-Bridge Diodes	45	Schottky	100	VSKDS201/045P				
			150	VSKDS301/045P				
		200	VSKDS401/045P					
		100	Schottky	100	VSKDS208/060P			
		150		VSKDS308/060P				
		200	VSKDS408/060P					
	100	Schottky	100	VSKDS203/100P				
			150	VSKDS303/100P				
		200	VSKDS403/100P					
		150	Schottky	100	VSKDS209/150P			
	200	VSKDS309/150P						
	800-2000	Standard	56	VSKD56/..P				
			70	VSKD71/..P				
			90	VSKD91/..P				
		400-1600	Standard	160		VSKD166/..PBF		
				190		VSKD196/..PBF		
				230		VSKD236/..PBF		
				250		VSKD250-..		
		600-2500	Standard	270		VSKD270-..		
				320		VSKD320-..		
				320		VSKDL240-..		
	800-2000	Fast	240				VSKD600-..	
		Standard	600				VSKDL450-..	
	1600-2500	Fast	460					
Up to 1200		100						
Up to 600	Ultrafast	300		VSKDU162/12PBF				
	Ultrafast	300		VSKDU300/06PBF				
Half Bridge, Fully Controlled	400-1600		25	VSKT26/..P				
			40	VSKT41/..P				
		Standard	56	VSKT56/..P				
			70	VSKT71/..P				
			90	VSKT91/..P				
			105	VSKT105/..P				
		Standard	130		VSKT136/..PBF			
			140		VSKT142/..PBF			
			160		VSKT162/..PBF			
		Standard	170			VSKT170-..		
			230			VSKT230-..		
			250			VSKT250-..		
			180	Fast			VSKTF180-..	
		800-1200	Fast	200		VSKTF200-..		
	Standard		500				VSKT500-..	
	800-2000		25	VSKH26/..P				
			40	VSKH41/..P				
			56	VSKH56/..P				
		Standard	70	VSKH71/..P				
			90	VSKH91/..P				
			105	VSKH105/..P				
			130		VSKH136/..PBF			
		Standard	140		VSKH142/..PBF			
			160		VSKH162/..PBF			
170					VSKH170-..			
Standard		230			VSKH230-..			
		250			VSKH250-..			
		500					VSKH500-..	
		800-2000	Standard	25	VSKL26/..P			
40	VSKL41/..P							
56	VSKL56/..P							

Half Bridge, Negative Controlled	400-1600	70	Standard				VSKL71/..P			
		90					VSKL91/..P			
		105					VSKL105/..P			
	800-1200	130	Standard				VSKL136/..PBF			
		140					VSKL142/..PBF			
		160					VSKL162/..PBF			
		170						VSKL170-..		
	800-2000	230	Standard					VSKL230-..		
		250						VSKL250-..		
	Common Cathode Diodes	30	180	Fast					VSKTL180-..	
200			Fast					VSKTL200-..		
45		500	Standard						VSKL500-..	
		220	Schottky	220CNQ030PBF			VSKCS220/030P			
		440		440CNQ030PBF			VSKCS440/030P			
		200		200CNQ045PBF			VSKCS201/045P			
60		300	Schottky	201CNQ045PBF						
		300		300CNQ045PBF			VSKCS301/045P			
		400		301CNQ045PBF						
		400		400CNQ045PBF			VSKCS401/045P			
100	200	Schottky	401CNQ045PBF			VSKCS208/060P				
	300					VSKCS308/060P				
	400					VSKCS408/060P				
	200		203CNQ100PBF			VSKCS203/100P				
150	300	Schottky	303CNQ100PBF			VSKCS303/100P				
	400		403CNQ100PBF			VSKCS403/100P				
	200		209CNQ150PBF			VSKCS209/150P				
	300					VSKCS309/150P				
Thyristor Common Cathode	200	400	Ultrafast	409CNQ150PBF			VSKCS409/150P			
		167		VSUD400CW20						
	400-600	210		HFA140NJ60CPBF						
		240		HFA210NJ60CPBF						
		280		HFA240NJ40CPBF						
		320		HFA280NJ60CPBF						
	400-1600	360		HFA320NJ40CPBF						
		400		VSUD360CW..						
		56		VSUD400CW..						
		70	Standard				VSKC56/..P			
90						VSKC71/..P				
130						VSKC91/..P				
400-1600	140	Standard				VSKC166/..PBF				
	160					VSKC196/..PBF				
	250					VSKC196/..PBF				
	270	Standard					VSKC250-..			
	320						VSKC270-..			
	320						VSKC320-..			
400-1600	25					VSKC320-..				
	40					VSKC320-..				
	56	Standard				VSKU56/..P				
	70					VSKU71/..P				
	90					VSKU91/..P				
	105					VSKU105/..P				
	130	Standard					VSKU136/..PBF			
	140						VSKU142/..PBF			
	160						VSKU162/..PBF			
	170							VSKU170-..		
230	Standard						VSKU230-..			

	250								VSKU250-..
	180	Fast							VSKUF180-..
	200	Fast							VSKUF200-..
	440	Schottky					VSKJS440/030P		
	400	Schottky					VSKJS403/100P		
	200	Schottky					VSKJS209/150P		
	56						VSKJ56/.P		
	70	Standard					VSKJ71/.P		
	90						VSKJ91/.P		
	130						VSKJ166/..PBF		
	140	Standard					VSKJ196/..PBF		
	160						VSKJ236/..PBF		
	250							VSKJ250-..	
	270	Standard						VSKJ270-..	
	320							VSKJ320-..	
	240	Fast						VSKJL240-..	
	25						VSKV26/.P		
	40						VSKV41/.P		
	56	Standard					VSKV56/.P		
	70						VSKV71/.P		
	90						VSKV91/.P		
	105						VSKV105/.P		
	130	Standard					VSKV136/..PBF		
	140						VSKV142/..PBF		
	150	Standard					VSHPS..		
	160	Standard					VSKV162/..PBF		
	170							VSKV170-..	
	230	Standard						VSKV230-..	
	250							VSKV250-..	
	200	Fast						VSKVF200-..	
		Ultrafast				UFB60FA..P			
		Ultrafast				HFA60FA120P			
	60					UFL60FA..P			
		Ultrafast				HFA120FA60P			
	75					HFA120FA120P			
		Ultrafast				HFA80FA120P			
	80					UFB120FA..P			
	120					UFL120FA..P			
		Ultrafast				UFL200FA..P			
	200					HFA200FA120P			
		Hyperfast				UFX200FA..P			
	240					UFB200FA..P			
	200					UFL200CB..P			
	60	Ultrafast				HFA60EA120P			
	50								
	90	Standard					54MT..K..		
	100						94MT..K..		
							104MT..K..		

Key: Released In Development

MODULES										
Package Model	Max . Dim. LWH (mm)	Pinout	Number of Connectors	Available Circuit Configurations	Voltage Range (V)	Current Ratings (A)	Part Number Series	Silicon Technology		
SOT-227	38.3 x 25.7 x 12.3	Screwable	4	2 Separate diodes	400-1200	80-210	UFB-UFL	Ultrafast Diode		
				Customized configuration			HFA			
				2 Separate diodes	1000	60	SA60FA100P	Fast diode		
TO-244	93 x 21 x 18	Screwable	2 + Baseplate	Common cathode-- not isolated	45-150	200-400	2..CNQ..-3..CNQ..-4..CNQ..	Schottky Diode		
					30	200-400	220CNQ..-440CNQ..	Schottky Diode		
					400-600	167-320	HFA..NJ..PBF	Ultrafast Diode		
					400-600	360-400	VSUD..CW..	Ultrafast Diode		
					200	400	VSUD400CW20PBF	Ultrafast Diode		
Half-Pak	40 x 21 x 18	Screwable	1 + Baseplate	Single diode cathode on base	45-150	120-240	12..NQ..-18..NQ..-24..NQ..	Schottky Diode		
					30	120-240	122NQ..-182NQ..-242NQ..	Schottky Diode		
					400	180-275	HFA..NH40PBF	Ultrafast Diode		
					200	240	VSUD200CH20PBF	Ultrafast Diode		
					600	200	VSUD200CH60PBF	Ultrafast Diode		
					400	150	VSSD150CH40PBF	Standard Diode		
T-Module	41 x 27 x 25	Screwable	Up to 3	Single SCR	400-1600	40-110	T..RIA	SCR		
				Single diode	400-1600	40-110	T..HF	Diode		
					600-1200	40-85	T..HFL	Fast Diode		
Add-A-Pak AAP	92 x 21 x 30	Screwable	Up to 7	Half bridge	400-1600	25-105	VSKT	SCR		
							VSKD	Diode		
							VSKH-VSKL	SCR-Diode		
				Common cathode	400-1600	25-105	VSKU	SCR		
							VSKC	Diode		
				Common anode	400-1600	25-105	VSKV	SCR		
							VSKJ	Diode		
				Single diode	400-1600	25-105	VSKE	Diode		
				Half bridge	30-150	100-440	VSKDS	Schottky Diode		
				Common cathode			VSKCS	Schottky Diode		
Common anode			VSKJS	Schottky Diode						
Half bridge			VSKDU	Ultrafast Diode						
Int-A-Pak IAP	94 x 35 x 29	Screwable	Up to 7	Half bridge	400-1600	130-230	VSKT	SCR		
							VSKD	Diode		
							VSKH-VSKL	SCR-Diode		
				Common cathode	400-1600	130-230	VSKU	SCR		
							VSKC	Diode		
				Common anode	400-1600	130-230	VSKV	SCR		
							VSKJ	Diode		
				AC switch	800-1600	50-100	.4MT..K	SCR		
				Single diode	400-1600	130-230	VSKE	Diode		
				Half bridge	600	300	VSKDU300..	Ultrafast Diode		
Common anode, non-isolated	400	150	VSHPS..	SCR						
Magn-A-Pak MAP	92 x 50 x 52	Screwable	Up to 7	Half bridge	400-2000	170-320	VSKT	SCR		
							800-1200	180-200	VSKTF	SCR fast
							400-2000	170-320	VSKD	Diode
							400-2500	240	VSKDL	Diode Fast
							400-2000	170-320	VSKH-VSKL-VSKL	SCR-Diode
							800-1200	180-200	VSKHF..-VSKLF..	SCR fast-Diode Fast
				Common cathode	400-2000	170-320	VSKU	SCR		
							VSKC	Diode		
							800-1200	180-200	VSKUF	SCR fast
							400-2500	240	VSKCL	Diode Fast
				Common anode	400-2000	170-320	VSKV	SCR		
							VSKJ	Diode		
							800-1200	180-200	VSKVF	SCR fast
							400-2500	240	VSKJL	Diode Fast
				Single diode	400-2000	170-320	VSKE	Diode		
							400-2500	240	VSKEL	Diode Fast
Single SCR switch	400-800	500	VSKS500..PBF	SCR						
Super Magn-A-Pak SMAP	149 x 60 x 52	Screwable	Up to 7	Half bridge	400-2000	430-600	VSKT	SCR		
							VSKD	Diode		
							1600-2500	450	VSKDL	Fast Diode
							400-2000	430-600	VSKH-VSKL	SCR-Diode

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SEMICONDUCTORS:

Rectifiers • High-Power Diodes and Thyristors • Small-Signal Diodes • Zener and Suppressor Diodes
• FETs • RF Transistors • Optoelectronics • ICs • Modules

PASSIVE COMPONENTS:

Resistive Products • Magnetics • Capacitors • Strain Gage Transducers and Stress Analysis Systems



One of the World's Largest Manufacturers of
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