



IGBT MODULES



RoHS
COMPLIANT



- MTP
- ECONO-2
- INT-A-Pak
- SIP
- SOT-227

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High-efficiency IGBT modules from Vishay Intertechnology feature industry-standard outlines with a choice of PT and NPT IGBT technologies. Configured as single switches, inverters, choppers, half-bridges, or in custom configurations, these modules are the ideal choice for high-frequency power applications that demand high-efficiency performance. They are designed for use as a main switching device in switchmode power supplies, uninterruptible power supplies, industrial welding, motor drives, and power factor correction systems. Typical applications include boost and buck converters, forward and double forward converters, half bridges, full bridges (H-bridge), and three-phase bridges. Low thermal resistance allows Vishay IGBT modules to operate at higher case temperatures while maintaining the operating junction temperature within safe limits. Electrically isolated from the circuit, the base plate is exposed, allowing for direct mounting to the heat sink. With improved current sharing and lower operating junction temperatures, designers can now achieve higher system reliability. Vishay IGBT modules are 100 % lead (Pb)-free and RoHS-compliant and meet industry standards for safety including UL approval.

Features

- Wide range of industry-standard package styles
- Direct mount on heat sink
- Choice of pt and npt IGBT technologies
- Low- $V_{ce(on)}$ IGBT
- Switching frequency from 1 kHz to 150 kHz
- Optimized anti-parallel ultra-fast diode with soft recovery characteristics
- Rugged transient performance
- High isolation voltage (2500 V)
- 100 % lead (Pb)-free and RoHS-compliant
- Low thermal resistance
- Wide operating temperature range (– 40 °C to + 150 °C)
- UL-approved

Options

- Short-circuit capability available on many configurations
- Optional SMD integrated thermistor
- Customizable for specific application needs

Applications




- Industrial high-frequency welding
- Switchmode power supplies
- Uninterruptible power supplies
- Motor drives
- Power factor correction

Product	Package Model	Maximum Dimensions, LWH (mm)	Pin-out	Number of Connectors	Circuit Configurations Available	Voltage Range (V)	Current Ratings at 25 °C (A)	Frequency Speed Grade (kHz)	Part Number Series
IGBT Technology — npt with short circuit capability or pt silicon available									
	SIP	62.4 x 22 x 7.9	Solderable pins	Up to 19	6PAK inverter Customized configuration	600	8 – 30	1 – 60	CPV...
	MTP	63.5 x 32.5 x 16	Solderable pins	Up to 12	Half bridge Full bridge Chopper Customized configuration	600 – 1200	30 – 50	8 – 150	MT060WHTAPBF MT120UFAPBF MT060ULSTAPBF
	IAP	94 x 35 x 29	Screwable	7	Half bridge Single switch Customized configuration	600 – 1200	100 – 200	dc – 60	GA...TS... GB...TS... GB...SS...
	ECONO-2	107.8 x 45.4 x 17	Solderable pins	Up to 50	6PAK inverter 4PAK PIM (bridge-brake-inverter) Customized configuration	600 – 1200	15 – 75	8 – 60	GB...XF... GB...YF... GB...RF...
	SOT-227	38.3 x 25.7 x 12.3	Screwable	4	Single switch Chopper Customized configuration	600 – 1200	50 – 200	dc – 150	GA...SA...P GA...DA...P GB...LA...P GB...NA...P GB...DA...P



IGBT MODULES

Vishay

Configuration	Voltage (V)	Current Rating (A) @ 25 °C	Package			
			MTP	ECONO-2	INT-A-Pak	
						
			8 kHz – 150 kHz	8 kHz – 60 kHz	dc – 60 kHz	
4PAK	1200	50		GB50YF120N		
		75		GB75YF120N		
6PAK	600	8				
		15				
		20		GB20XF60K		
		30		GB30XF60K		
		50		GB50XF60K		
		75		GB75XF60K		
	1200	10	GB05XP120KTPBF	GB10XF120K		
		15	GB15XP120KTPBF	GB15XF120K		
		25		GB25XF120K		
		35		GB35XF120K		
PIM with Thermistor	600	10		GB10RF60K		
		15		GB15RF60K		
		20		GB20RF60K		
		30		GB30RF60K		
		50		GB50RF60K		
	1200	10		GB10RF120K		
		15		GB15RF120K		
		25		GB25RF120K		
Full Bridge	500	19	19MT050XFAPBF			
	600	25	25MT060WFAPBF			
	1200	20	20MT120UFAPBF			
Half Bridge	600	50	50MT060WHTAPBF			
		75	70MT060WHTAPBF			
		100			GA100TS60SFPBF	GB100TS60NPBF
		150				GB150TS60NPBF
		200			GA200TS60UPBF	GB200TS60NPBF
	1200	200		GA200HS60S1PBF		
		40	40MT120WHAPBF			
		75			GA75TS120UPBF	
		100			GA100TS120UPBF	GB100TS120NPBF
		125			GA125TS120UPBF	
Single Switch	600	100				
		200				
		400			GA400SS60SPBF	
	1200	64				
		75				
Chopper	600	50	50MT060JLSTAPBF			
		70				
		100				
	1200	100 – 150				
		50				

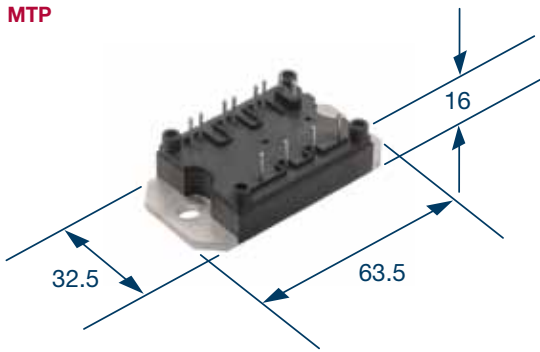
Key: Frequency Speed Grade Released In Development Please Note: Customized configuration available for all packages upon demand

Configuration	Voltage (V)	Current Rating (A) @ 25 °C	Package				
			SIP			SOT-227	
							
			8 kHz – 25 kHz	8 kHz – 60 kHz	1 kHz – 8 kHz	dc – 8 kHz	8 kHz – 150 kHz
4PAK	1200	50					
		75					
6PAK	600	8	CPV362M4KPBF	CPV362M4UPBF	CPV362M4FPBF		
		15	CPV363M4KPBF	CPV363M4UPBF	CPV363M4FPBF		
		20	CPV364M4KPBF	CPV364M4UPBF	CPV364M4FPBF		
		30					
		50					
	1200	10					
		15					
		25					
		35					
		50					
PIM with Thermistor	600	10					
		15					
		20					
		30					
	1200	50					
		10					
		15					
Full Bridge	500	19					
	600	25					
	1200	20					
Half Bridge	600	50					
		75					
		100					
		150					
		200					
	1200	200					
		40					
		75					
		100					
		125					
Single Switch	600	100					GB100DA60UP
		200				GA200SA60SP	GA200SA60UP
	1200	400					
		64					GB75DA120UP
Chopper	600	75					
		50					
		70					GB70LA60UP GB70NA60UP
	1200	100					GA100NA60UP
		100 – 150					
	50					GB50LA120UX GB50NA120UX	

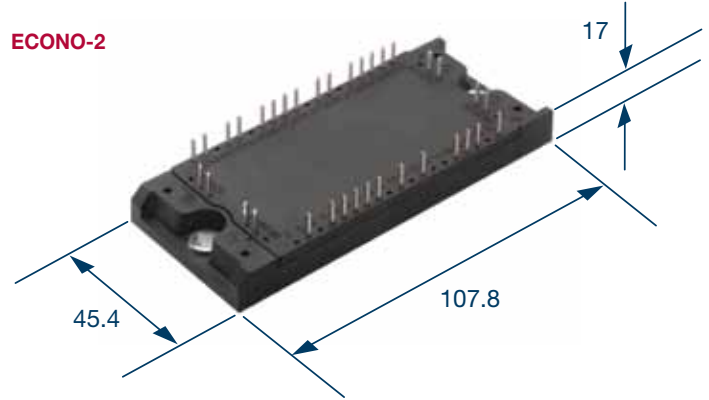
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Dimensions in Millimeters

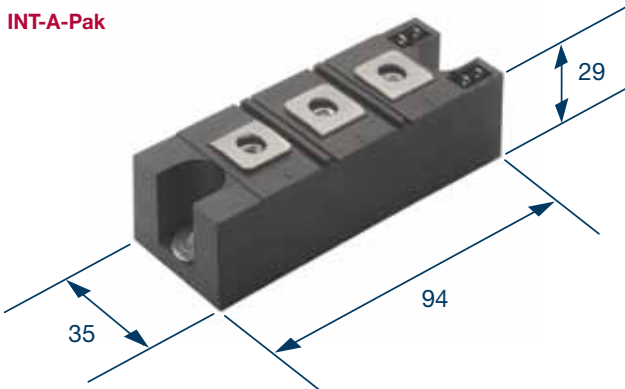
MTP



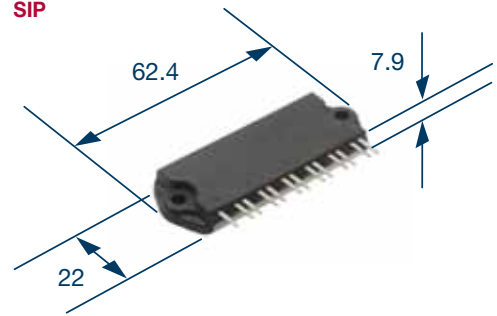
ECONO-2



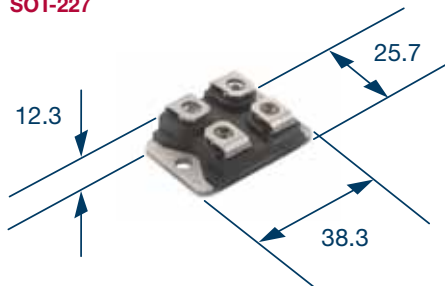
INT-A-Pak



SIP



SOT-227



SEMICONDUCTORS:

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