

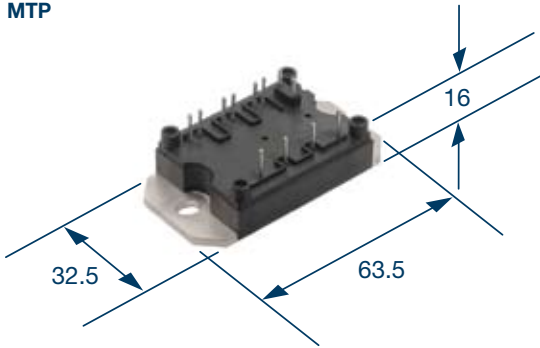


# IGBT Modules

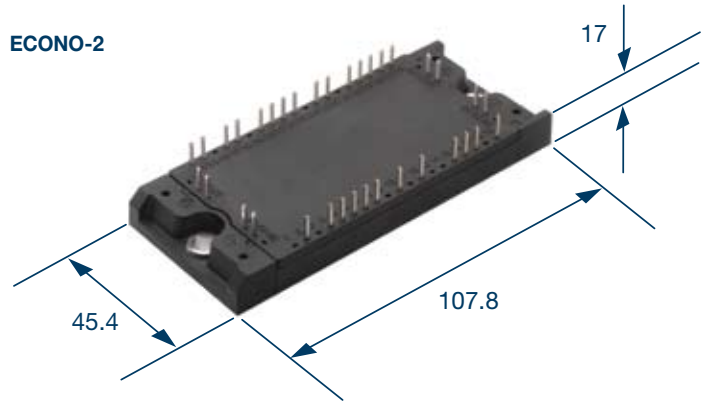


## Dimensions in Millimeters

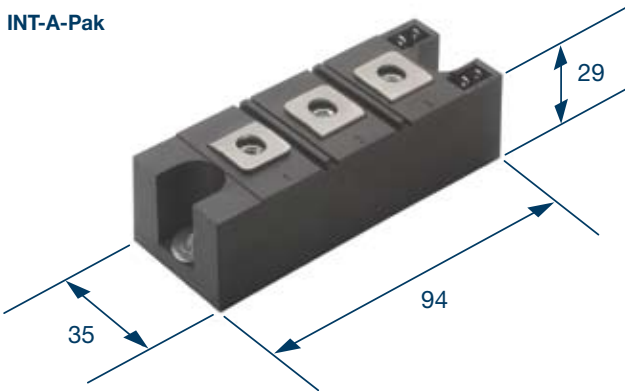
MTP



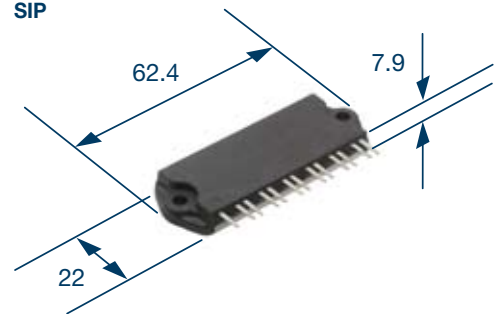
ECONO-2



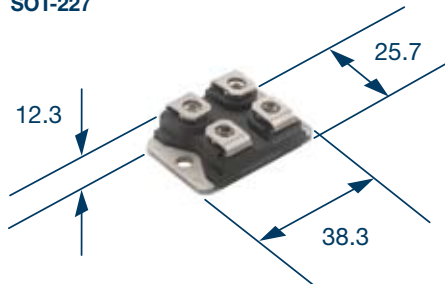
INT-A-Pak



SIP



SOT-227



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VISHAY INTERTECHNOLOGY, INC.



RoHS  
COMPLIANT



## IGBT MODULES

MTP

ECONO-2

INT-A-Pak

SIP

SOT-227



# IGBT Modules



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



Configuration	Voltage [V]	Current Rating [A] @ 25 °C	MTP	ECONO-2
				
			8 kHz – 150 kHz	8 kHz – 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	50		GB50XF120K
		10		GB10RF60K
		15		GB15RF60K
		20		GB20RF60K
		30		GB30RF60K
	1200	50		GB50RF60K
		10		GB10RF120K
		15		GB15RF120K
		25		GB25RF120K
		Full Bridge	500	19
600	25	25MT060WFAPBF		
1200	20	20MT120UFAPBF		
Half Bridge	600	50	50MT060WHTAPBF	
		75	70MT060WHTAPBF	
		100		
		150		
		200		
		200		
	1200	40	40MT120WHAPBF	
		75		
		100		
		125		
Single Switch	600	100		
		200		
		400		
1200	64			
	75			
Chopper	600	50	50MT060ULSTAPBF	
		70		
		100		
	1200	100 – 150		
		50		

Key: Frequency Speed Grade Released In Development

