



# Three Level Inverter IGBTs

## Overview

The Three Level Inverter IGBT product line has been designed and packaged for applications requiring high efficiency operation and improved output waveform quality. The Three Level topology uses smaller output voltage steps thereby reducing surge voltages at the load as compared to two level inverter topologies.

The Three Level Inverter IGBTs provide significant benefits where low output noise and small filter components are required. The modules also perform well in applications where long motor leads create voltage surge issues.

## Applications

- Three level inverter topologies
- Solar power inverters
- Wind power inverters
- High efficiency UPS
- Long motor lead applications

## Other advantages include:

- Lower output ripple current.
- Lower voltage semiconductors with lower switching losses can be used in place of higher loss, high voltage semiconductors.
- These devices have a lower modulation frequency with the same quality output waveform as compared to conventional inverter designs.

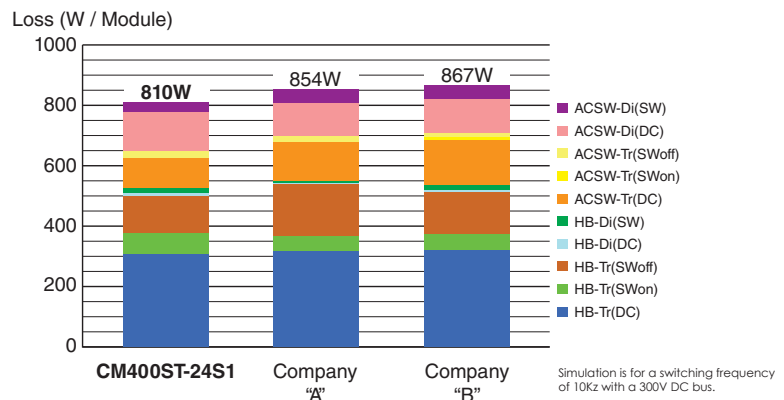
## Product Advantages

- Simplifies layout
- Easily paralleled
- High efficiency
- Low inductance in all commutation modes



## Performance Comparison of CM400ST-24S1 to Competing Inverter Solutions

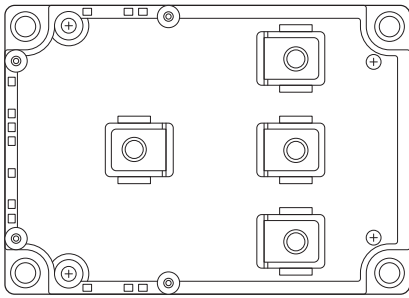
As shown, the CM400ST-24S1 has **significantly lower losses** as compared to the competition.



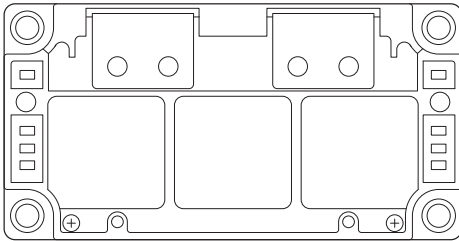
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## Three Level Inverter Packages



**Package A**  
(115mm x 82mm)

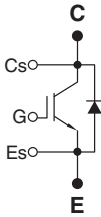


**Package B**  
(130mm x 67mm)

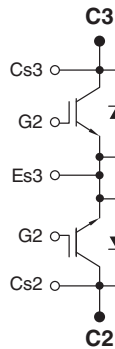
## Line-up Table

Part Number	Configuration	Volts	Amps	Circuit Diagram
<b>Package A</b>				
CM400ST-24S1	T-type Phase Leg	1200	400	D
<b>Package B</b>				
CM1400HA-24S	Single	1200	1400	A
CM600HA-34S	Single	1700	600	A
CM800HA-34S	Single	1700	800	A
CM1000HA-34S	Single	1700	1000	A
CM500C2Y-24S	AC Switch	1200	500	B
RM1400HA-24S	Single Diode	1200	400	C

## Circuit Diagrams



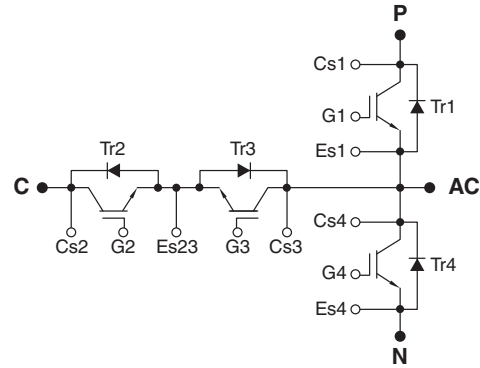
**Circuit Diagram A**



**Circuit Diagram B**



**Circuit Diagram C**



**Circuit Diagram D**