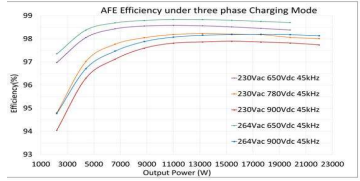
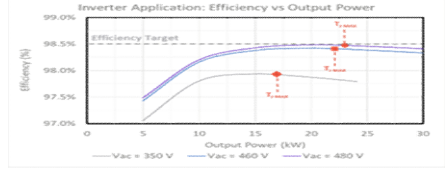
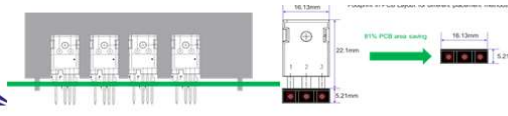



	CRD-22AD12N	CRD25AD12N-FMC	Comments
SIC Components	6x C3M0032120K – 32mOhm discrete	1x CCB021M12FM3 (21mOhm WolfPACK module) or 1x CCB032M12FM3 (WolfPACK module)	Pricing can be obtained from a distributor
Efficiency	Efficiency in ACDC PFC mode , actual test data at unit level. 	Inverter mode ,simulated module loss only with CCB021M12FM3 Output voltage : 800V 	Efficiencies can be improved on either design with the right choice of SiC components and thermal scheme.
Topology			
Operating Voltage	PFC Mode •Three Phase Input Voltage: 305Vrms → 456Vrms line-line 50/60Hz Max current: 32A Output DC Voltage: 650V → 900V; Max power 22kW •Single Phase Input Voltage: 180Vrms → 264Vrms 50/60Hz Max current: 32A Output DC Voltage: 380V → 900V; Max power 6.6kW Inverter Mode •DC Input Voltage: 350V → 760V DC Max current: 20A •AC Output Voltage: 230Vrms 50Hz single phase Max power: 6.6kW	Input - 3Ph AC : 400V to 480V   Output : 800V DC	CRD-22AD12N is designed and tested for both single phase and three phase AC across a wide operating range
Switching Frequency	45Khz	100Khz	CRD-22AD12N can also run at 65kHz and 100kHz. But the efficiency will drop from 98.6% to 98.3% and 97.7%. We do not recommend > 67kHz to second harmonic EMI noise of an AFE. Third harmonic noise is much lower than the noise at primary and secondary harmonics. Conducted EMI frequency band starts at 150kHz
Additional Reference Circuits	Includes Aux Power, Control Board, EMI Filter, Bulk Ecaps	Includes Aux Power, Pre-Charge for Soft Start, Contactors, Fuses, EMI Filter	
<b>Size</b>			
Dimensions	366mm*186mm*65mm	Chassis : ft 1x4ft	
Power Density	4.6kW/L Remark: to support single phase AC input, large bulk Ecaps were used. if it is for 3ph AC input in the customer solution, it is possible to get 20% improvement on the power density.	Design optimized for scalability, not power density	
Gate Drivers	On Board ( TI UCC535x)	Daughter Card (choice of TI UCC21710, Skyworks Si823Hx , Analog Devices Adum4146 )	
<b>Thermal Management</b>			
Component Max Tj	175C continuous	150C Continuous/175C transient	
Thermal Resistance (junction to heatsink)	0.85C/W (AIN pad + grease)	1.24C/W	
Mounting Scheme	Can be mounted to flat baseplate Also can be mounted to liquid cooled or air cooled vertical Baseplate .Preferred for smaller X*Y dimensions at system level 	Can be mounted to flat baseplate (see comparison below). Preferred for smaller Z dimension 	
<b>Assembly</b>			
Type	Screw with AIN-Pad and grease ( more complex)	Press-fit + 2 bolts ( simpler)	