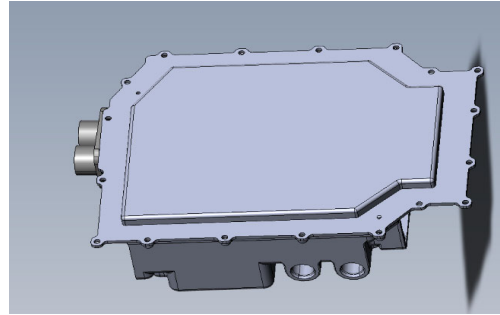
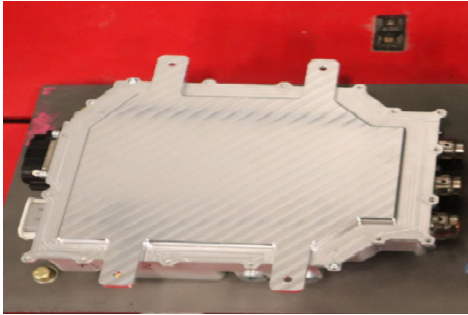


200kW SiC PMSM Areospace Inverter - Preliminary Datasheet

5/18/2021



	Symbol	Description	Conditions	min.	typ.	max.	Unit
Electrical							
	Viso	HV to GND isolation voltage	AC, 50Hz, t = 1min		4000		V
	Vs	DC link voltage			750	850	V
	Icont	Continuous rms phase current	50% water / 50% glycol, PMSM motor Vs = 750V, Tcoolant = 105C, Tamb = 85C		210		Arms
	Cdc	DC link capacitance	-	225	250	275	μF
	Cy	EMI Y-capacitor; DC to chassis	-		N/A		μF
	Rdc	DC link bleed resistance	-		N/A		kΩ
	η	peak efficiency	@ Pload = 160kW		99.2		%
	fmax	maximum switching frequency	Tamb = 85C, derate in Icont for fmax > 4kHz		10		kHz
Mechanical							
	Weight	-	-		6.5		kg
	Height	-	-		92		mm
	Width	-	-		210		mm
	Length	-	-Without High Voltage Connectors		220		mm
	Volume	-	-		4.3		liters
	Gravimetric Density	-	-		30.0		kW/kg
	Power Density	-	-		46.5		kW/liter
Cooling							
	Pd	Pressure drop	Flow = 15 l/min, Tcoolant = 105C		TBD		mbar
	Pmax	Max operating pressure	-		TBD		bar
	Vcoolant	Coolant volume in heatsinks	-		TBD		liters
	P	Power dissipation	@ Icont				kW
Environmental							
	Tstorage	Storage ambient air temperature	-	-40		85	C
	Tamb	Operating ambient air temperature	derating for Tamb > 85C	-40		105	C
	Tcoolant	Operating coolant temperature	derating for Tcoolant > 105C	-40		115	C
	Altitude	Altitude above sea level	Vs = 800Vdc		4000		m