

Technical Information

PrimeSTACK™

6PS04512E43W39693



Preliminary data

System data

				min.	typ.	max.	
EMC robustness	according to IEC 61800-3 at named interfaces	power	V_{Burst}	2			kV
		control	V_{Burst}	1			kV
		aux (24V)	V_{surge}	1			kV
Storage temperature		T_{stor}	-40		85	°C	
Operational ambient temperature	PCB, DC link capacitor, bus bar, excluding cooling medium	$T_{op\ amb}$	-25		55	°C	
Cooling air velocity	PCB, DC link capacitor, bus bar, standard atmosphere	V_{air}	0.3			m/s	
Humidity	no condensation	Rel. F	5		85	%	
Vibration	according to IEC60721				5	m/s ²	
Shock	according to IEC60721				40	m/s ²	
Protection degree			IP00				
Pollution degree			2				
Dimensions	width x depth x height		215	280	120	mm	
Weight			7.7			kg	

Heatsink water cooled

				min.	typ.	max.	
Water flow	according to coolant specification from Infineon	$\Delta V/\Delta t$	10				dm ³ /min
Water pressure					8		bar
Water pressure drop		Δp		50			mbar
Coolant inlet temperature		T_{inlet}	-40		40		°C

Overview of optional components

	Unit 1	Inverter Section	Unit 3
Parallel interface board			
Optical interface board			
Voltage sensor		x	
Current sensor		x	
Temperature sensor		x	
Temperature simulation			
DC link capacitors			
Collector-emitter Active Clamping			

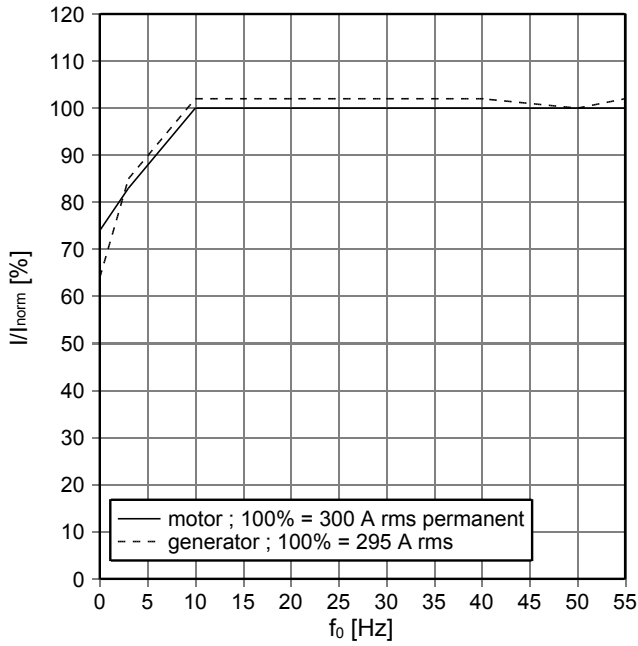
Notes

Setting of Active Clamping TVS-Diodes: $V_z = 824\text{ V}$

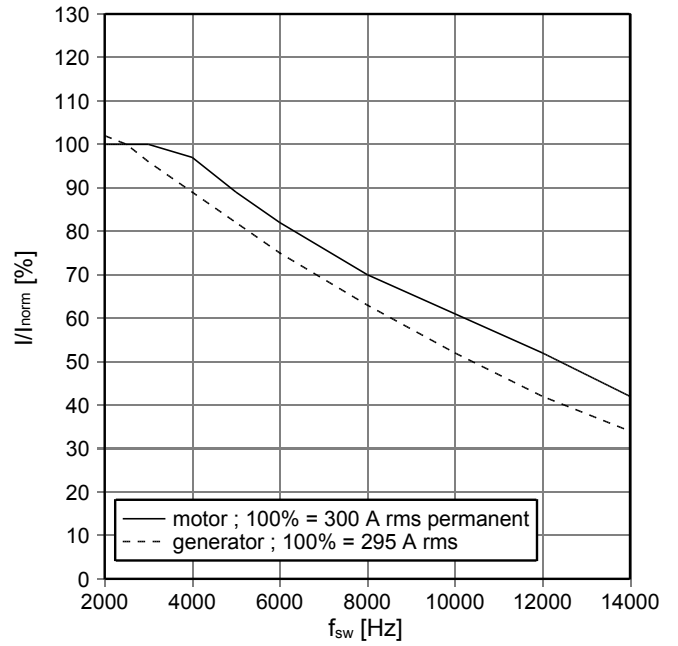
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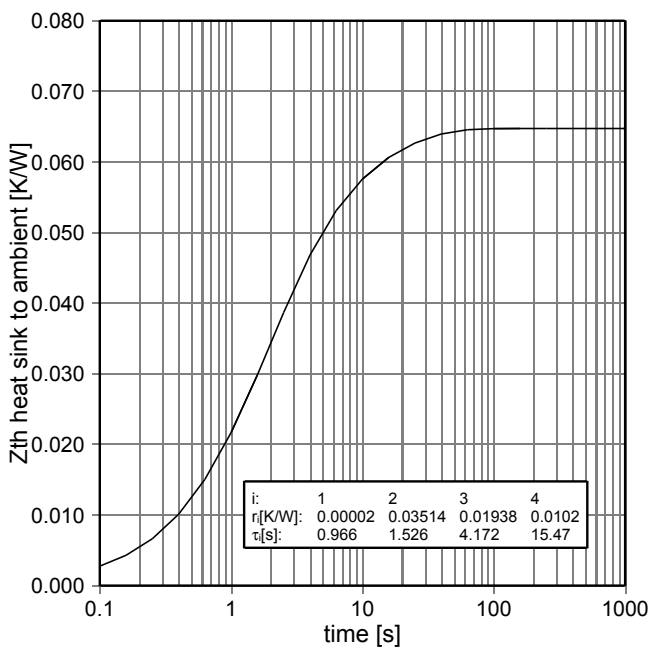
fo - derating curve IGBT (motor), Diode (generator)
 cos(phi) = ±0,85
 T_{cool medium} = 40°C



fsw - derating curve IGBT (motor), Diode (generator)
 cos(phi) = ±0,85
 T_{cool medium} = 40°C



Zth heat sink to ambient per switch
 T_{cool medium} = 40°C



i:	1	2	3	4
r _i [KW]	0.00002	0.03514	0.01938	0.0102
τ _i [s]	0.966	1.526	4.172	15.47

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