

Technical Information

PrimeSTACK

4PS0300R12KS4-3GV



Vorläufige Daten
preliminary data

Controller interface data

			min	typ	max	units
Auxiliary voltage		V_{aux}	18	24	30	V_{av}
Auxiliary power requirement	$V_{aux} = 24V_{av}$	P_{aux}	40			W
Driver and interface board	see separate technical information		DR210			
Driver core			EiceDRIVER 2ED300C17-S			
Digital input level	resistor to GND 10,0k Ω , capacitor to GND 1nF, high = on, min 15mA	V_{in}	0,0		15,0	V
Digital output level	open collector, low = ok, max 15mA	V_{out}	0,0		30,0	V
Analog current outputs Unit 2	load max 1mA; at 183A	$V_{ana\ out}$	3,88	3,96	4,04	V
Analog DC Link voltage output	load max 1mA; at 850V	$V_{DC\ out}$	8,33	8,50	8,67	V
Analog temperature output	load max 1mA; at $T_{NTC} = 71^{\circ}C$ correspond to $T_j = 125^{\circ}C$	$V_{T\ out}$	7,61	7,77	7,93	V
Overvoltage shutdown reaction time	after overvoltage message by PrimeSTACK interface				50	μs
Overcurrent shutdown reaction time	after overvoltage message by PrimeSTACK interface				10	μs

Heat sink air cooled / Thermal data

			min	typ	max	units
Airflow	$T_{Air} = 20^{\circ}C$, $P_{air} = 1013hPa$, dry- and dust free, measured on side of heat sink. according to DIN 41882	$\Delta V/\Delta t_{Air}$	500			m^3/h
Air pressure drop		Δp_{Air}		150		Pa
Cooling air inlet temperature	heat sink temperature $> -25^{\circ}C$	T_{inlet}	-25		40	$^{\circ}C$

Environmental conditions

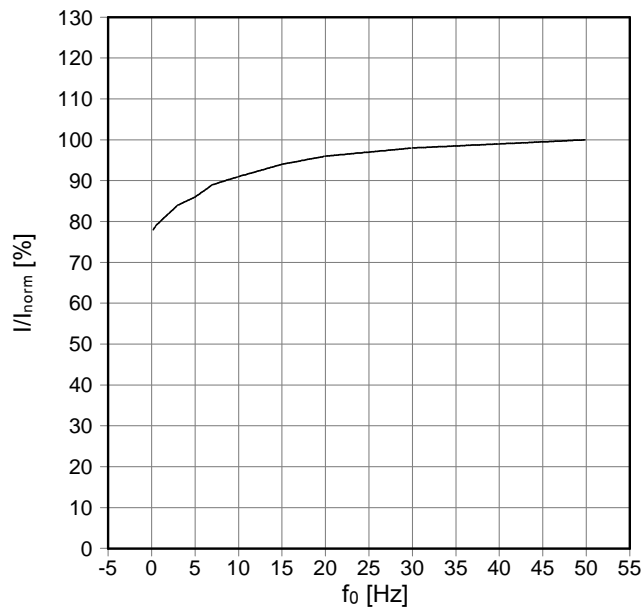
			min	typ	max	units
Storage temperature		T_{stor}	-40		85	$^{\circ}C$
Ambient temperature (PCB)		T_{amp}	-25		55	$^{\circ}C$
Operating temperature	see chapter Heat sink air cooled / Thermal data					
Cooling air velocity (PCB)		$V_{Air\ PCB}$	0,3			m/s
Air pressure	standard atmosphere	p_{Air}	900		1100	hPa
Humidity	no condensation	Rel. F	5		85	%
Installation height			0		1000	m
Vibration	according to IEC60721				5	m/s^2
Shock	according to IEC60721				40	m/s^2
Protection degree			IP00			
Pollution degree			2			
Torque at DC Terminals		M_{DC}	6,0		10,0	Nm
Torque at AC Terminals		M_{AC}	16,0		20,0	Nm
Dimensions	width \times depth \times height		216	280	167	mm
Weight with heat sink	approximation			9,1		kg
Weight without heat sink	approximation			2,9		kg

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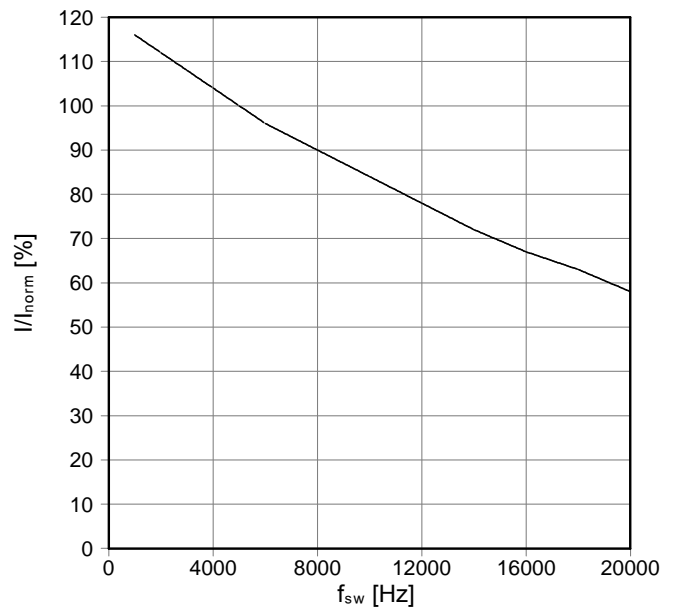


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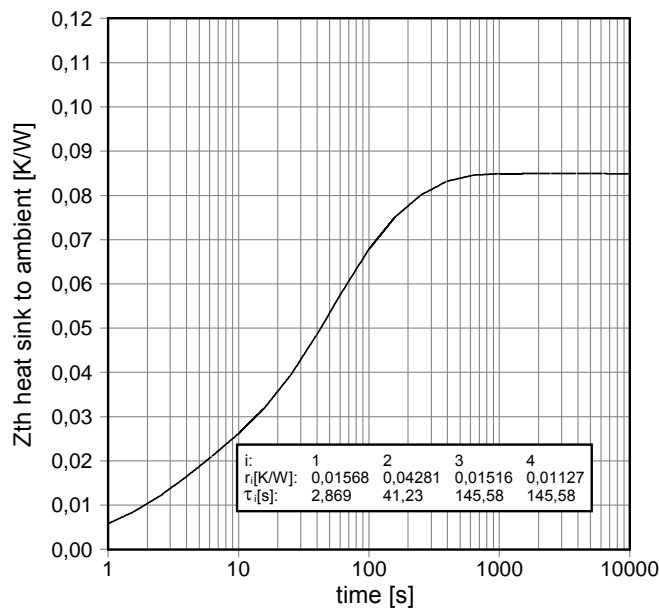
fo - derating curve IGBT (motor)
 $\cos(\phi) = 0,85$
 $T_{cool\ medium} = 40^{\circ}C$



fsw - derating curve IGBT (motor)
 $\cos(\phi) = 0,85$
 $T_{cool\ medium} = 40^{\circ}C$



Transient thermal impedance per module
 $T_{cool\ medium} = 40^{\circ}C$



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