

## **CAR2512FP Series**

2500 Watt +12V Front End Power Supply

## Features:

FEATURES

High Power Density 27W/in<sup>3</sup>

Load Sharing & Fault Tolerant

Automatic Fan Speed Control

High Efficiency under light Loads

- Leading Edge Power Density, 27W/in3 in 1U Form Factor
- Works in Parallel with DC Input Models (CAR2412DC)
- I<sup>2</sup>C Serial Bus and PMBus Interface
- Up to 91.5% Efficiency (90% at 20% Load)
- Active Current Sharing (Single Wire)
- Remote On/Off, Remote Sense, Voltage Program Circuits
- Microprocessor Based Design Allows for Automatic Fan Speed Control

BENEFITS

More system space for application circuits and hardware

Reduces audible noise and increases reliability

Supports Demands for Latest Server Farm Trends

Excellent reliability in N+1 operation with AC or DC Input Versions

Front Panel AC Access via IEC-320 Inlet





### KEY MARKET SEGMENTS & APPLICATIONS

- Distributed Power
- Storage Equipment
- Mid-High End Servers
- High-End Routers & Switchgear

SPECIFICATIONS	2500 Watt 12V Front End Power Supply				
Input Voltage Range	180-264 VAC, 47-63 Hz, derate for 140-180 VAC Operation				
Input Current Maximum	16A @ 180VAC, Full Load (max)				
Inrush Current	40A max. cold start (per ETS 300 132-1 and Bellcore specifications)				
Input Protection	One fuse (line) - 20A & 250Vac Type 3AB Axial				
Power Factor	0.99 typical complies with IEC555, EN60555-2, EN61000-3-2				
Efficiency	Up to 91.5% (90% eff. @ 20% load, 91.5% eff @ 30% load, 90.5% eff @ 50%, 88% @ 100% Load), Operating under 12V output @ 230 VAC (including ORing MOSFETS)				
Output Power	2500W at High Line Operation (180-264 VAC)				
Output Voltage Range	10.8V to 13.2Vdc via analog and I <sup>2</sup> C / PMBus				
Output Current	208 Amps @ 12 VDC				
Standby Bias Voltage	3.3VSB @ 1A, reference to Vout Return (optional 5VSB)				
Voltage Regulation	±2% of Vnom for any combination of line, load and temperature				
Ouput Ripple & Noise	±1% (pk-pk) @ 20MHz with 0.1μF ceramic and 10μF electrolytic caps at the output				
Transient Response	5% max deviation, recovery time 300μs @ 50% load step and di/dt < 1A/μs				
Switching Frequency	400khz typical or optimized for efficiency gains				
Hold-Up Time	12ms at full load measured down to 10.8V (with 230Vac). An early warning signal is provided 2ms prior to loss of output power. Ride thru is 8.3ms typically				
Remote On/Off	TTL Compatible input, ON if >3V or open, OFF if <1V"				
Current Limit Protection	110-130% of lout nominal				
Short Circuit Protection	Self protected with auto recovery				
Over Voltage Protection	Trip level: ≥14.8Vdc ± 1V, Reset condition by recycling the input or applying Remote On/Off				
Operating Temperature	-10°C to +70°C				
Over Temperature Protection	Non latching; protection active at 110°C internal temperature, restart at 95°C (typical)				
EMI	FCC-B & EN55022-B with specified filter or at rack-level, GR-1089-CORE				
LED Indicators	Two LED's, 1st Led (Green = AC OK), 2nd LED (Green = DC OK / Red = Fault)				
Analog Status & Control	Voltage Programming (V Prog), Load sharing (I Share), Remote ON/OFF, Current Monitor (I Monitor), Over temperature (Temp Warning), Fault, PS Present, Module Enable, AC OK, DC OK				
Digital Status & Control	I <sup>2</sup> C and PMBus				
Shock & Vibration	Telcordia NEBS GR-63-CORE Level III				
Dimensions	14.88" x 4.00" x 1.65" / 378mm x 102mm x 41.9mm				
Weight	4.73lbs / 2.15kg				
Safety Approvals	IEC/UL/CSA/EN60950-1, CE Mark (LVD), TUV				
Options	5VSB Output				

Lineage (凌骥)中国区授权代理商:

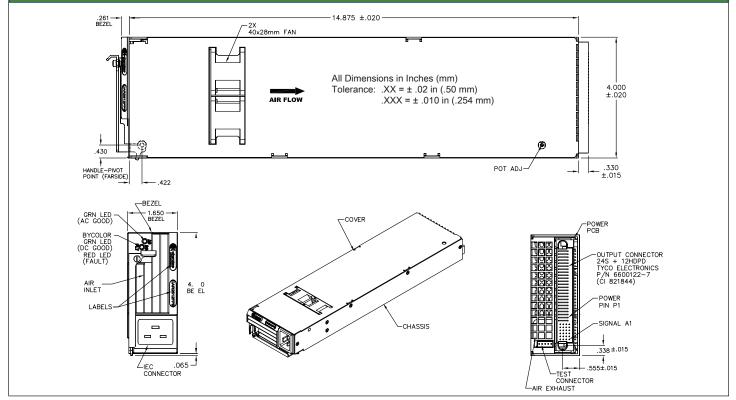
深圳市中电华星电子技术有限公司

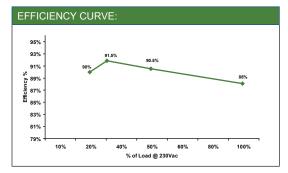
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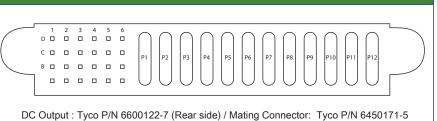


#### OUTLINE DRAWING





#### CONNECTOR DRAWING:



#### PART NUMBER DEFINITION GUIDE: **CAR** 25 12 **-1A** F P X X XX Series Rev. YO=5 of 6 Compliant (25=2500W) Output Current ZO=6 of 6 Compliant RoHS (12=12V Blank = 3.3VSBOutput Voltage 5 = 5VSB(F=Front End) Standby Voltage Type (P=Positive) B=Bezel Option Polarity Blank=None Example: Options CAR2512FPB5Z0-1A 2500W / 12Vout / Bezel / 5VSB / 6 of 6 RoHS

PIN OUT INFORMATION							
A1	VSB [3.3]	C1	I Share	P1	Output Return		
A2	PS Present	C2	N/C	P2	Output Returnt		
A3	Signal Return	C3	Temp OK	P3	Output Return		
A4	Write Protect	C4	I <sup>2</sup> C Address (A0)	P4	Output Returnt		
A5	Remote Sense (+)	C5	I <sup>2</sup> C Address (A1)	P5	Output Return		
A6	Remote Sense (-)	C6	I <sup>2</sup> C Address (A2)	P6	Output Return		
B1	Fault	D1	V Prog	P7	+Vout		
B2	I Monitor	D2	OVP Test Point	P8	+Vout		
B3	Module Enable	D3	Remote ON/OFF	P9	+Vout		
B4	VSB [3.3] Return	D4	DC OK	P10	+Vout		
B5	SDA	D5	AC OK	P11	+Vout		
B6	SCL	D6	Interrupt	P12	+Vout		

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