CAR2512FP Series

2500 Watt +12V Front End Power Supply

Features:

- Leading Edge Power Density, 27W/in3 in 1U Form Factor
- Works in Parallel with DC Input Models (CAR2412DC)
- I²C 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
- Front Panel AC Access via IEC-320 Inlet

RoHS COMPLIANT

FEATURES	BENEFITS
High Power Density 27W/in^3	More system space for application circuits and hardware
Load Sharing & Fault Tolerant	Excellent reliability in N+1 operation with AC or DC Input Versions
Automatic Fan Speed Control	Reduces audible noise and increases reliability
High Efficiency under light Loads	Supports Demands for Latest Server Farm Trends

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 I²C / 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 Iout 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	I²C 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 Power
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Mesquite, TX 75149
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Shanghai, 201401 China
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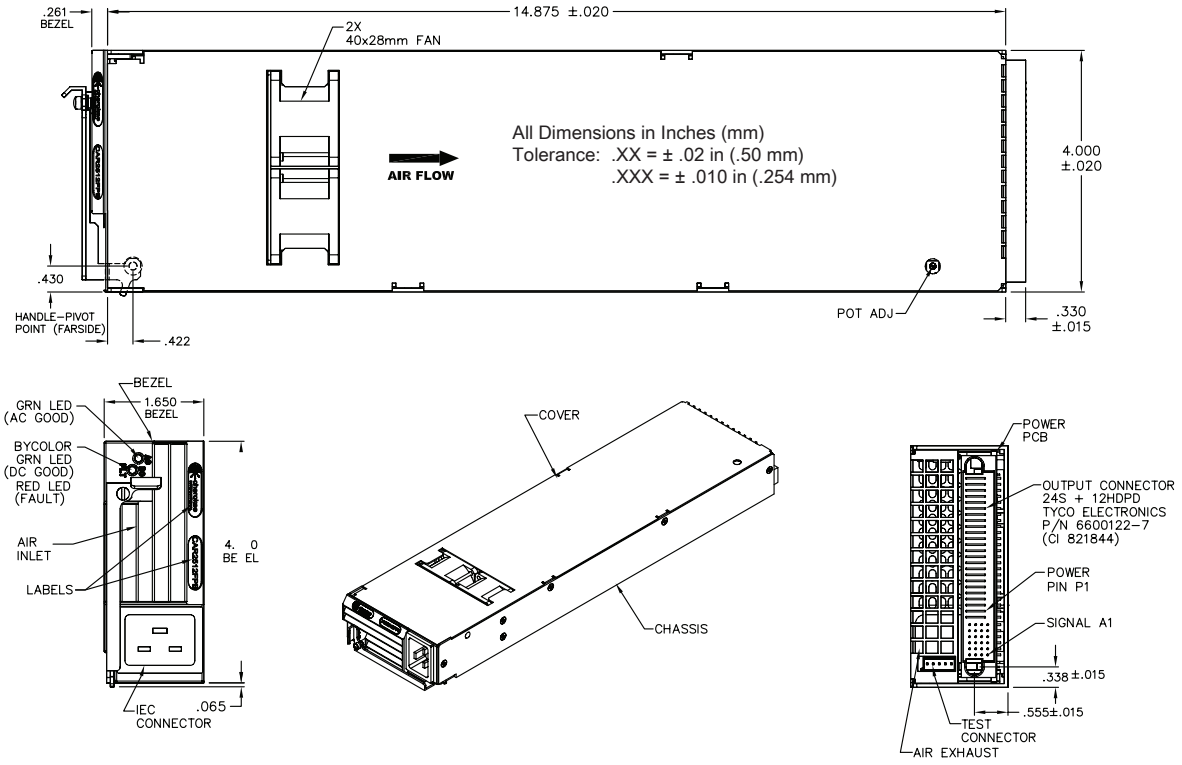
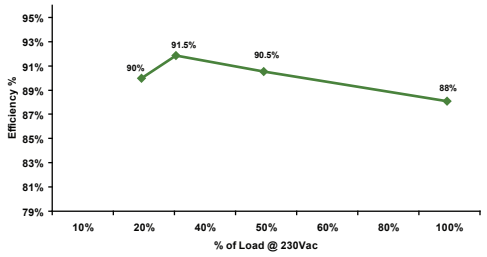
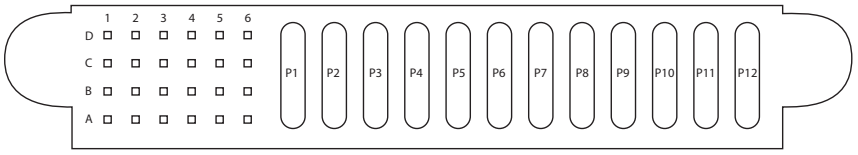
OUTLINE DRAWING



EFFICIENCY CURVE:

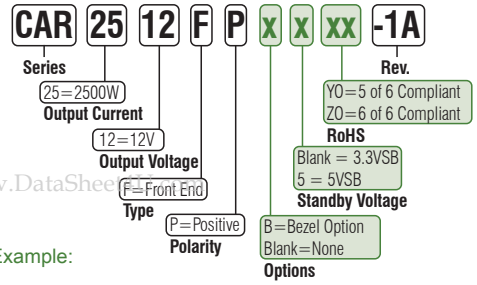


CONNECTOR DRAWING:



DC Output : Tyco P/N 6600122-7 (Rear side) / Mating Connector: Tyco P/N 6450171-5

PART NUMBER DEFINITION GUIDE:



Example:

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	I²C Address (A0)	P4	Output Returnt
A5	Remote Sense (+)	C5	I²C Address (A1)	P5	Output Return
A6	Remote Sense (-)	C6	I²C 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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