

PFE1100-12-054xD

DC-DC Front-End Power Supply

The PFE1100-12-054xD is a 1100 watt DC to DC power supply that converts DC input into a main output of 12 VDC for powering intermediate bus architectures (IBA) in high performance and reliability servers, routers, and network switches.

The PFE1100-12-054xD meets international safety standards and displays the CE-Mark for the European Low Voltage Directive (LVD).

Key Features & Benefits

- Best-in-class, 80 PLUS certified “Platinum” efficiency
- Best-in-class, “Platinum level” efficiency
- Wide input voltage range: 40 – 72 VDC
- Always-On 16.5 W programmable standby output (3.3 / 5 V)
- Hot-plug capable
- Parallel operation with active digital current sharing
- High density design: 25.6 W/in³
- Small form factor: 54.5 x 40 x 321.5 mm
- I²C communication interface for control, programming and monitoring with PSMI and PMBus® protocol
- Overtemperature, output overvoltage and overcurrent protection
- 256 Bytes of EEPROM for user information
- 2 Status LEDs: IN OK and OUT OK with fault signaling

Applications

- High Performance Servers
- Routers
- Switches



Disclaimer: PMBus is a registered trademark of SMIF, Inc.

1. ORDERING INFORMATION

PFE	1100	-	12	-	054	x	D
Product Family	Power Level	Dash	V1 Output	Dash	Width		Input
PFE Front-Ends	1100 W		12 V		54 mm		N: Normal air flow R: Reverse air flow S: Screw type input connector / normal air flow T: Screw type input connector / reverse air flow
							D: DC

2. INPUT SPECIFICATIONS

General Condition: $T_A = 0 \dots 45^\circ\text{C}$ unless otherwise specified.

PARAMETER	CONDITIONS / DESCRIPTION	MIN	NOM	MAX	UNIT
$V_{I\text{nom}}$	Nominal input voltage		53		VDC
V_I	Input voltage ranges	Normal operating ($V_{I\text{min}}$ to $V_{I\text{max}}$)		72	VDC
$I_{I\text{max}}$	Max input current			33	A_{rms}
I_p	Inrush Current Limitation	$V_{I\text{min}}$ to $V_{I\text{max}}$		60	A_p
$V_{I\text{on}}$	Turn-on input voltage ¹	Ramping up		45	VDC
$V_{I\text{off}}$	Turn-off input voltage ¹	Ramping down		40	VDC
η	Efficiency without fan	$V_{I\text{nom}}, 0.1 \cdot I_{I\text{nom}}, V_{X\text{nom}}, T_A = 25^\circ\text{C}$		89.3	
		$V_{I\text{nom}}, 0.2 \cdot I_{I\text{nom}}, V_{X\text{nom}}, T_A = 25^\circ\text{C}$		93.5	%
		$V_{I\text{nom}}, 0.5 \cdot I_{I\text{nom}}, V_{X\text{nom}}, T_A = 25^\circ\text{C}$		95	
		$V_{I\text{nom}}, I_{I\text{nom}}, V_{X\text{nom}}, T_A = 25^\circ\text{C}$		92.9	
T_{hold}	Hold-up Time	$V_I > 10.8\text{ V}, V_{\text{SB}}$ within regulation, $V_I = 53\text{ VDC}, P_{X\text{nom}}$		5	ms

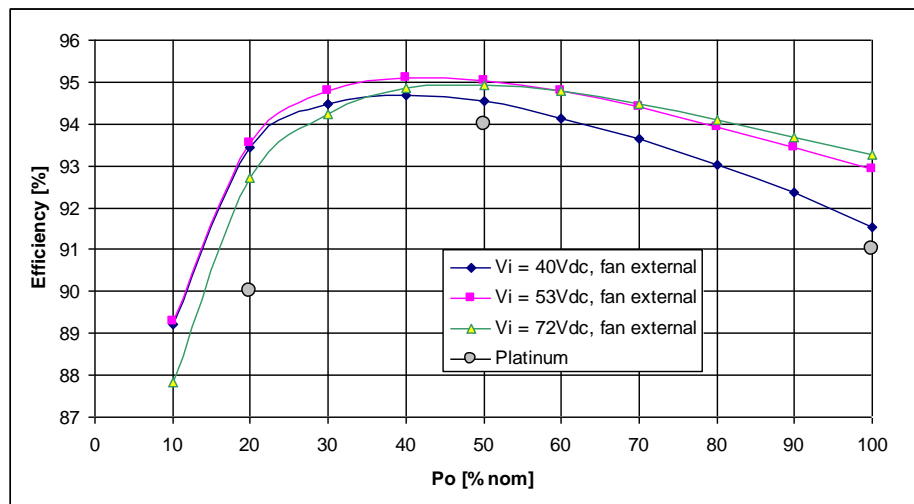


Figure 1. Efficiency

¹ The Front-End is provided with a minimum hysteresis of 3 V during turn-on and turn-off within the ranges.