

ESF1000-S SPECIFICATIONS

	MODEL	ESF1000-3R3	ESF1000-05	ESF1000-09	ESF1000-12
INPUT	VOLTAGE, FREQUENCY	AC100-120V / 200~240V (AC90~132V / 180~264V or DC255~370V), 50/60Hz (47~440Hz or DC)			
	CURRENT	110V~16.0A 220V~8.0A	110V~22.0A, 220V~11.0A		
	EFFICIENCY (AC220V)	70% typ	78% typ	80% typ	81% typ
	INRUSH CURRENT	30A typ(ACIN 110V, I _o =100%), 60A typ(ACIN 220V, I _o =100%) at cold start.			
OUTPUT	VOLTAGE [V]	3.3	5	9	12
	CURRENT [A]	200	200	111	83
	REGULATION, LINE [mV]	25 Max	25 Max	45 Max	60 Max
	REGULATION, LOAD [mV]	50 Max	50 Max	90 Max	120 Max
	RIPPLE [mVp-p]	50 Max	50 Max	90 Max	120 Max
	RIPPLE, NOISE [mVp-p]	100 Max	100 Max	140 Max	170 Max
	TEMPERATURE DRIFT 0~+50°C [mV]	50 Max	75 Max	135 Max	180 Max
	RISE TIME [ms]	800 Max (ACIN 110V/220V I _o =100%)			
	HOLDING TIME [ms]	17 typ (ACIN 110V/220V I _o =100%)			
PROTECTION CIRCUIT	OVER CURRENT PROTECTION	Works at over 110% of rating and recovers automatically			
	OVER VOLTAGE PROTECTION	Works at 115~140% of rating (In the case of 3.3V, it is 115~160%)			
ELECTRICALLY ISOLATED	INPUT-OUTPUT	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	INPUT-CASE, FG	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	OUTPUT-CASE, FG	AC500V 1 minute current 100mA, DC 500V 100MΩ (At room temperature & Humidity)			
ENVIRONMENT	OPERATING TEMP AND HUMID	-10~+50°C, 20~90% RH(Non Condensing)			
	STORAGE TEMP AND HUMID	-20~+75°C, 20~90% RH(Non Condensing)			
	VIBRATION	10~55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis			
	IMPACT	10G for 20ms once on each X, Y and Z axis			
SAFETY	SAFETY REGULATION	-			
	LINE CONDUCTED RF VOLTAGE	-			

ESF1000-S SPECIFICATIONS

	MODEL	ESF1000-15	ESF1000-24	ESF1000-28	ESF1000-48
INPUT	VOLTAGE, FREQUENCY	AC100-120V / 200~240V (AC90~132V / 180~264V or DC255~370V), 50/60Hz (47~440Hz or DC)			
	CURRENT	110V~22.0A, 220V~11.0A			
	EFFICIENCY (AC220V)	81% typ	83% typ	83% typ	85% typ
	INRUSH CURRENT	30A typ(ACIN 110V, I _o =100%), 60A typ(ACIN 220V, I _o =100%) at cold start.			
OUTPUT	VOLTAGE [V]	15	24	28	48
	CURRENT [A]	67	42	36	21
	REGULATION, LINE [mV]	75 Max	120 Max	140 Max	240 Max
	REGULATION, LOAD [mV]	150 Max	240 Max	280 Max	480 Max
	RIPPLE [mVp-p]	150 Max	240 Max	280 Max	480 Max
	RIPPLE, NOISE [mVp-p]	200 Max	290 Max	330 Max	530 Max
	TEMPERATURE DRIFT 0~+50°C [mV]	225 Max	360 Max	420 Max	720 Max
	RISE TIME [ms]	800 Max (ACIN 110V/220V I _o =100%)			
	HOLDING TIME [ms]	17 typ (ACIN 110V/220V I _o =100%)			
PROTECTION CIRCUIT	OVER CURRENT PROTECTION	Works at over 110% of rating and recovers automatically			
	OVER VOLTAGE PROTECTION	Works at 115~140% of rating (In the case of 3.3V, it is 115~160%)			
ELECTRICALLY ISOLATED	INPUT-OUTPUT	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	INPUT-CASE, FG	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	OUTPUT-CASE, FG	AC500V 1 minute current 100mA, DC 500V 100MΩ (At room temperature & Humidity)			
ENVIRONMENT	OPERATING TEMP AND HUMID	-10~+50°C, 20~90% RH(Non Condensing)			
	STORAGE TEMP AND HUMID	-20~+75°C, 20~90% RH(Non Condensing)			
	VIBRATION	10~55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis			
	IMPACT	10G for 20ms once on each X, Y and Z axis			
SAFETY	SAFETY REGULATION	-			
	LINE CONDUCTED RF VOLTAGE	-			

■ ESF1000A-S SPECIFICATIONS

	MODEL	ESF1000A-05	ESF1000A-12	ESF1000A-15	ESF1000A-24	ESF1000A-48
INPUT	VOLTAGE, FREQUENCY	AC100V/220V (AC90~132V / 180~264V)				
	CURRENT	110V~22.0A, 220V~11.0A				
	EFFICIENCY (AC220V)	78% typ	81% typ	81% typ	81% typ	81% typ
	INRUSH CURRENT	30A typ(ACIN 110V, I ₀ =100%), 60A typ(ACIN 220V, I ₀ =100%) at cold start.				
OUTPUT	VOLTAGE [V]	5	12	15	24	48
	CURRENT [A]	200	83	65	42	21
	REGULATION, LINE [mV]	25 Max	60 Max	75 Max	120 Max	240 Max
	REGULATION, LOAD [mV]	100 Max	120 Max	150 Max	240 Max	480 Max
	RIPPLE [mVp-p]	100 Max	120 Max	150 Max	240 Max	480 Max
	RIPPLE, NOISE [mVp-p]	150 Max	170 Max	190 Max	290 Max	530 Max
	TEMPERATURE DRIFT 0~+50°C [mV]	50 Max	120 Max	150 Max	240 Max	430 Max
	RISE TIME [ms]	800 Max (ACIN 110V/220V I ₀ =100%)				
	HOLDING TIME [ms]	17 typ (ACIN 110V/220V I ₀ =100%)				
PROTECTION CIRCUIT	OVER CURRENT PROTECTION	Works at over 110% of rating and recovers automatically Protection type: Constant current limiting unit will shut down o/p voltage after 10sec, Re-power on to recover				
	OVER VOLTAGE PROTECTION	Works at 115~140% of rating Protection type: Shut down o/p voltage, re-power on to recover				
ELECTRICALLY ISOLATED	INPUT-OUTPUT	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)				
	INPUT-CASE, FG	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)				
	OUTPUT-CASE, FG	AC500V 1 minute current 100mA, DC 500V 100MΩ (At room temperature & Humidity)				
ENVIRONMENT	OPERATING TEMP AND HUMID	-10~+50°C, 20~90% RH(Non Condensing)				
	STORAGE TEMP AND HUMID	-20~+85°C, 20~90% RH(Non Condensing)				
	VIBRATION	10~55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis				
	IMPACT	10G for 20ms once on each X, Y and Z axis				
SAFETY	SAFETY REGULATION	-				
	LINE CONDUCTED RF VOLTAGE	-				

■ ESF1250-S SPECIFICATIONS

	MODEL	ESF1250-3R3	ESF1250-05	ESF1250-09	ESF1250-12
INPUT	VOLTAGE, FREQUENCY	AC100-120V / 200~240V (AC90~132V / 180~264V or DC255~370V), 50/60Hz (47~440Hz or DC)			
	CURRENT	110V~20.0A 220V~10.0A	110V~27.0A, 220V~13.5A		
	EFFICIENCY (AC220V)	70% typ	78% typ	80% typ	81% typ
	INRUSH CURRENT	30A typ(ACIN 110V, I ₀ =100%), 60A typ(ACIN 220V, I ₀ =100%) at cold start.			
OUTPUT	VOLTAGE [V]	3.3	5	9	12
	CURRENT [A]	250	250	139	104
	REGULATION, LINE [mV]	25 Max	25 Max	45 Max	60 Max
	REGULATION, LOAD [mV]	50 Max	50 Max	90 Max	120 Max
	RIPPLE [mVp-p]	50 Max	50 Max	90 Max	120 Max
	RIPPLE, NOISE [mVp-p]	100 Max	100 Max	140 Max	170 Max
	TEMPERATURE DRIFT 0~+50°C [mV]	50 Max	75 Max	135 Max	180 Max
	RISE TIME [ms]	800 Max (ACIN 110V/220V I ₀ =100%)			
	HOLDING TIME [ms]	17 typ (ACIN 110V/220V I ₀ =100%)			
PROTECTION CIRCUIT	OVER CURRENT PROTECTION	Works at over 110% of rating and recovers automatically			
	OVER VOLTAGE PROTECTION	Works at 115~140% of rating (In the case of 3.3V, it is 115~160%)			
ELECTRICALLY ISOLATED	INPUT-OUTPUT	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	INPUT-CASE, FG	AC1,500V 1 minute current 20mA, DC 500V 100MΩ (At room temperature & Humidity)			
	OUTPUT-CASE, FG	AC500V 1 minute current 100mA, DC 500V 100MΩ (At room temperature & Humidity)			
ENVIRONMENT	OPERATING TEMP AND HUMID	-10~+50°C, 20~90% RH(Non Condensing)			
	STORAGE TEMP AND HUMID	-20~+75°C, 20~90% RH(Non Condensing)			
	VIBRATION	10~55Hz at 1G, 3 minutes period, 30 minutes along X, Y and Z axis			
	IMPACT	10G for 20ms once on each X, Y and Z axis			
SAFETY	SAFETY REGULATION	-			
	LINE CONDUCTED RF VOLTAGE	-			