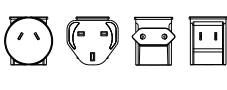




- Interchangeable AC plugs (plug kit sold separately)
- Universal AC input / Full range
- No load power consumption < 0.3W/230VAC for 5~24V (<0.5W/230VAC for 48V)
- ENERGY STAR level V compliant for 5~24V
- Meet EISA 2007 (Energy Independence and Security Act) for 5~48V
- Class II power (without earth pin)
- Protections: Short circuit / Overload / Over voltage
- Fully enclosed plastic case
- LED indicator for power on
- Pass LPS
- Approvals: UL / CUL / TUV / CB / FCC / CE / C-Tick
- 2 years warranty

AC INLET PLUG



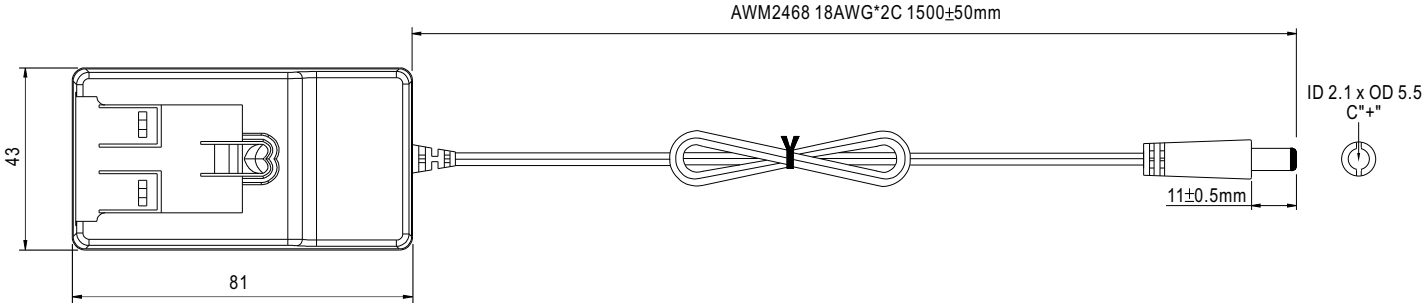
TYPE					
	Australian type	U.K type	European type	US type	Mix four type
ORDER NO.	AC plug-AU	AC plug-UK	AC plug-EU	AC plug-US	AC plug-MIX

SPECIFICATION

POWER SUPPLY MAIN BODY ORDER NO.		GE24I05-P1J	GE24I07-P1J	GE24I09-P1J	GE24I12-P1J	GE24I15-P1J	GE24I18-P1J	GE24I24-P1J	GE24I48-P1J
OUTPUT	SAFETY MODEL NO.	FRA024-S05-I	FRA024-S07-I	FRA024-S09-I	FRA024-S12-I	FRA024-S15-I	FRA024-S18-I	FRA024-S24-I	FRA024-S48-I
	DC VOLTAGE Note.2	5V	7.5V	9V	12V	15V	18V	24V	48V
	RATED CURRENT	3.0A	2.0A	2.22A	2.0A	1.6A	1.33A	1.0A	0.5A
	CURRENT RANGE	0 ~ 3.0A	0 ~ 2.0A	0 ~ 2.22A	0 ~ 2.0A	0 ~ 1.6A	0 ~ 1.33A	0 ~ 1.0A	0 ~ 0.5A
	RATED POWER (max.)	15W	15W	20W	24W	24W	24W	24W	24W
	RIPPLE & NOISE (max.) Note.3	50mVp-p	75mVp-p	100mVp-p	120mVp-p	150mVp-p	180mVp-p	240mVp-p	300mVp-p
	VOLTAGE TOLERANCE Note.4	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%
	LINE REGULATION Note.5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION Note.6	±5.0%	±5.0%	±5.0%	±3.0%	±3.0%	±3.0%	±3.0%	±3.0%
SETUP, RISE, HOLD UP TIME		4000ms, 100ms, 30ms / 230VAC 4000ms, 100ms, 10ms / 115VAC at full load							
INPUT	VOLTAGE RANGE	90 ~ 264VAC 135 ~ 370VDC							
	FREQUENCY RANGE	47 ~ 63Hz							
	EFFICIENCY (Typ.)	72%	75%	75%	78%	80%	80%	81%	81%
	AC CURRENT	0.7A / 100VAC 0.4A / 230VAC							
	INRUSH CURRENT (max.)	COLD START 40A / 100VAC 80A / 230VAC							
PROTECTION	LEAKAGE CURRENT (max.)	0.25mA / 240VAC							
	OVERLOAD	110% ~ 200% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed							
	OVER VOLTAGE	115% ~ 135% Protection type : Clamp by zener diode							
ENVIRONMENT	WORKING TEMP.	-10 ~ +50°C (Refer to output load derating curve)							
	WORKING HUMIDITY	20% ~ 90% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03% / °C (0 ~ 50°C)							
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS	UL60950-1, CSA C22.2, TUV EN60950 -1 approved							
	WITHSTAND VOLTAGE	I/P-O/P:4242VDC							
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH							
	EMI CONDUCTION & RADIATION	Compliance to EN55022 class B, FCC PART 15 / CISPR22 class B							
	HARMONIC CURRENT	Compliance to EN61000-3-2,3							
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, light industry level, criteria A							
	LIFE	2 years : 100% load 30°C, 8 hours / day							
	MTBF	100Khrs min. MIL-HDBK-217F (25°C)							
	DIMENSION	81*43*40.5mm (L*W*H)							
	PACKING	134g ; 60pcs / 12.32kg / CARTON							
DC OUTPUT CONNECTOR	PLUG	Standard type P1J: 2.1φ * 5.5φ * 11mm turning fork type, center positive for stock ; Other type available by customer requested							
	CABLE	See page2							
NOTE		1. All parameters are specified at 230VAC input, rated load, 25°C 70% RH ambient. 2. DC voltage: The output voltage set at point measure by plug terminal & 50% load. 3. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor. 4. Tolerance: includes set up tolerance, line regulation, load regulation. 5. Line regulation is measured from low line to high line at rated load. 6. Load regulation is measured from 10% to 100% rated load 7. Main body unit and AC inlet plug should be ordered separately ; it needs to be used along with any of the AC inlet plug.							

Mechanical Specification

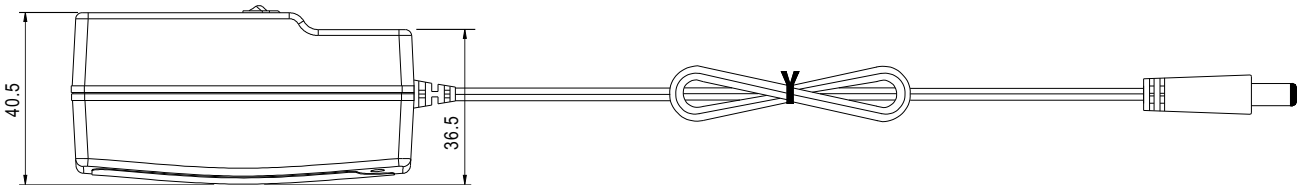
Unit:mm



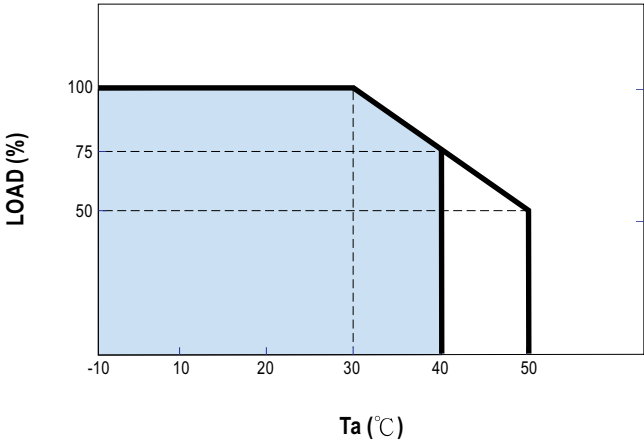
Plug Assignment

Standard plug: P1J (option)

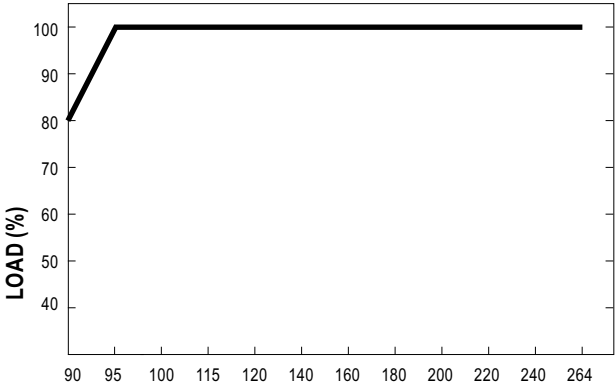
P1J	
P/N	OUTPUT
CENTER	+



Derating Curve



Static Characteristics



Model : GE24I12-P1J 24W
+12V / 0~2.0A

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	120mVp-p (Max)	I/P:230VAC O/P:FULL LOAD Ta:25℃	8mVp-p	P
2	VOLTAGE TOLERANCE	-3% ~ +3% (Max)	I/P:90VAC~264VAC O/P:FULL~MIN. LOAD Ta:25℃	-1% ~ +1%	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD Ta:25℃	-0.05% ~ +0.05%	P
4	LOAD REGULATION	-3% ~ +3% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD Ta:25℃	-0.94% ~ +0.94%	P
5	SET UP TIME	4000 mS (Max)	I/P:230VAC O/P:FULL LOAD Ta:25℃	1896 mS	P
6	RISE TIME	100 mS (Max)	I/P:230VAC O/P:FULL LOAD Ta:25℃	21 mS	P
7	HOLD UP TIME	10 mS (Min)	I/P:115VAC O/P:FULL LOAD Ta:25℃	16 mS	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE RANGE	90VAC ~ 264VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	58V ~ 264V	P
2	FREQUENCY RANGE	50HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 100VAC ~ 240VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	EFFICIENCY	78% (Typ)	I/P:230VAC O/P:FULL LOAD Ta:25℃	83.8%	P
4	AVERAGE EFFICIENCY	>82.09% (LEVEL V)	I/P:115/230VAC O/P:25% 、 50% 、 75% 、 100% LOAD Ta:25℃	83.656% (115VAC) 82.296% (230VAC)	P
5	AC CURRENT	0.7A (Max)	I/P: 100VAC O/P:FULL LOAD Ta:25℃	0.5A	P
6	NO LOAD POWER CONSUMPTION	< 0.3W	I/P:230VAC O/P: NO LOAD Ta:25℃	0.23W	P

7	INRUSH CURRENT	< 80A COLD START	I/P:230VAC O/P:FULL LOAD Ta:25°C	64A	P
8	LEAKAGE CURRENT	< 0.25mA	I/P:240VAC O/P:Min LOAD Ta:25°C	L-FG:0.02mA N-FG:0.02mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110 ~ 200% (Typ)	I/P:230VAC O/P:TESTING Ta:25°C	171.1% HICCUP MODE RESET AUTO RECOVER	P
2	OVER VOLTAGE PROTECTION	CLAMP BY ZENER DIODE 115 ~ 135% (Typ)	I/P:230VAC O/P:MIN LOAD Ta:25°C	CLAMP BY ZENER DIODE	P
3	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:264VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE HICCUP MODE RESET AUTO RECOVER	P

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:4242VDC/min	I/P-O/P:4242VDC/min Ta:25°C	I/P-O/P:0.002 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500VDC Ta:25°C	I/P-O/P:>30GΩ NO DAMAGE	P

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 13HRS I/P:230VAC O/P:100% LOAD Ta=25°C 2. ROOM AMBIENT BURN-IN : 1HRS I/P:230VAC O/P:75% LOAD Ta=40°C 3. ROOM AMBIENT BURN-IN : 44HRS I/P:230VAC O/P:50% LOAD Ta=50°C			P

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C9 IS THE MOST CRITICAL COMPONENT I/P:230 VAC O/P:FULL LOAD Ta=30℃ LIFE TIME=63554HRS (8HRS/DAY) I/P:230 VAC O/P:75% LOAD Ta=40℃ LIFE TIME=31016HRS (24HRS/DAY) I/P:230 VAC O/P:50% LOAD Ta=50℃ LIFE TIME=33941HRS (24HRS/DAY)			P
2	MTBF	MIL-KDBK-217F NOTICES 2 PARTS COUNT TOTAL FAILURE RATE : 1.6605 M.T.B.F : 602234HRS			P

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2009.3.10	PRODUCT SAMPLE	PASS	PETER	VINCENT ZENG