

## DRJ240-24-1/E

### SPECIFICATIONS

PA638-01-01/E-A

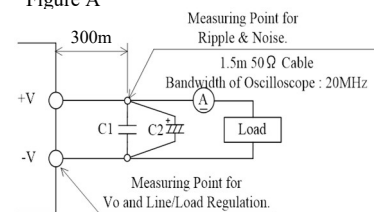
MODEL		DRJ240-24-1/E	
ITEMS	MODEL	DRJ240-24-1/E	DRJ240-24-1/E
1	Nominal Output Voltage	V	24
2	Maximum Output Current	A	10
3	Peak Output Current (*12)	A	12
4	Maximum Output Power	W	240
5	Peak Output Power (*12)	W	288
6	Efficiency (Typ) (*1)	%	91/93
7	Input Voltage Range (*2)	-	85 - 264VAC (47-63Hz), OR 120 - 370VDC (Withstand 300VAC Surge for 5 seconds)
8	Input Current (Typ) (*1)	A	2.4/1.4
9	Inrush Current (Typ) (*3)	-	55A at 230VAC, Ta=25°C
10	PFHC	-	Designed To Meet IEC61000-3-2
11	Power Factor (Typ) (*1)	-	0.98/0.92
12	Output Voltage Range	V	24 - 28
13	Maximum Ripple & Noise (*1)(*4)(*5)	mV	240
14	Maximum Line Regulation (*5)(*6)	mV	24
15	Maximum Load Regulation (*5)(*7)	mV	240
16	Temperature Coefficient	-	Less than 0.02% / °C
17	Over Current Protection (*8)	-	> 101% of Peak Output Power
18	Over Voltage Protection (*9)	V	30 - 35
19	Hold-up Time (Typ) (*1)	ms	20
20	Leakage Current (*10)	-	< 1mA at 230VAC (60Hz)
21	Monitoring Signal	-	DC OK LED
22	Series Operation	-	Possible
23	Parallel Operation	-	No
24	Operating Temperature (*11)	-	-25 ~ +70°C (-25 ~ +55°C : 100%, +70°C : 50% )
25	Operating Humidity	-	5 - 95%RH (No dewdrop)
26	Storage Temperature	-	-40 ~ +85°C
27	Storage Humidity	-	5 - 95%RH (No dewdrop)
28	Cooling	-	Convection Cooling
29	Withstand Voltage	-	Input - Output : 3kVAC (20mA), Input - FG : 1.77kVAC (20mA) Output - FG : 500VAC (100mA) for 1min
30	Isolation Resistance	-	Output - FG More than 100MΩ (500VDC) at 25°C and 70%RH
31	Vibration	-	At no operating, 10 - 55Hz (sweep for 1min) 19.6m/s <sup>2</sup> (2G) Constant, X,Y,Z 1 hour each.
32	Shock (In package)	-	Less than 196m/s <sup>2</sup> (20G)
33	Safety	-	Approved by UL60950-1, CSA22.2 No. 60950-1 IEC/EN60950-1, UL 62368-1, CSA C22.2 No. 62368-1, IEC/EN 62368-1, CSA C22.2 No.107.1, UL508, IEC/EN 62477-1 OVC III
34	EMI (*1) (*14)	-	Designed To Meet EN55011/EN55032-B
35	Immunity (*14)	-	Designed To Meet IEC61000-6-2, IEC61000-4-2, -3, -4, -5, -6, -8, -11
36	Weight (Typ)	g	750
37	Size (W x H x D)	mm	41 x 124 x 125 (Refer to Outline Drawing)

\*Read instruction manual carefully, before using the power supply unit.

=NOTES=

- \*1. At 115VAC/230VAC, Ta=25°C, nominal output voltage and maximum output power.
- \*2. For cases where conformance to various safety specs (UL, CSA, EN) are required, to be described as 100-240VAC, 50/60Hz on name plate.
- \*3. Not applicable for the in-rush current to Noise Filter for less than 0.2ms.
- \*4. Ripple & noise are measured at 20MHz by using a 300mm twisted pair of load wires terminated with a 0.1μF Film Capacitor and a 47μF Electrolytic Capacitor.
- \*5. Please refer to Figure A for measurement of Vo, line and load regulation and ripple voltage.
- \*6. 85 - 264VAC, constant load.
- \*7. No load - Full load, constant input voltage.
- \*8. Hiccup with automatic recovery. Avoid operating at over load or short circuit condition.
- \*9. Output latched shut down. Manual reset by AC cycle.
- \*10. Measured by each measuring method of UL and EN (at 60Hz), Ta = 25°C.
- \*11. Refer to Output Derating Curve (PA638-01-02/E-) for details of output derating versus ambient temperature.  
- Load (%) is percent of maximum output power or maximum output current,  
Do not exceed its derating of maximum load.
- \*12. Operating period at peak output current is D ≤ 35%, <10sec and 7.5Arms max. Refer to PA638-01-03/E-
- \*13. All parameters not specifically mentioned are measured at 230VAC input, rated load and Ta = 25°C.
- \*14. The power supply is considered a component which will be installed into a final equipment.  
The final equipment should be re-evaluated that it meets EMC directives.

Figure A



C1 : Film Cap. 0.1μF  
C2 : Elect. Cap. 47μF

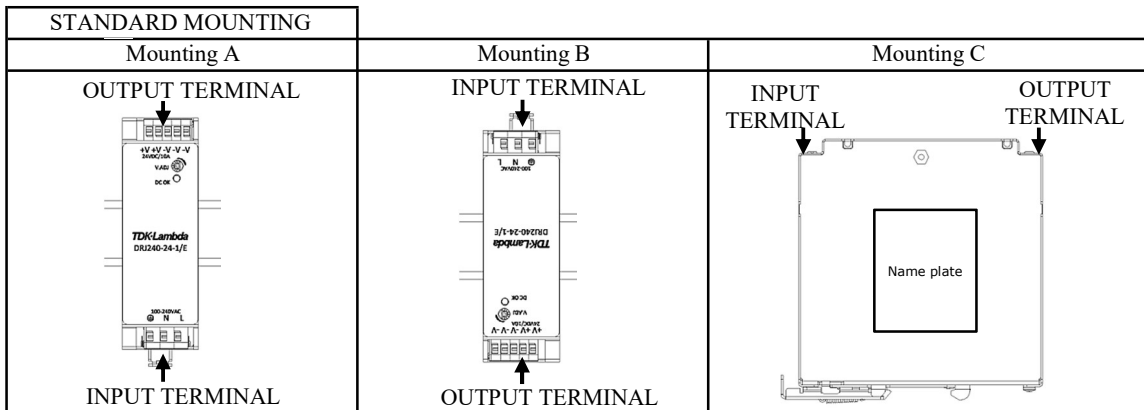
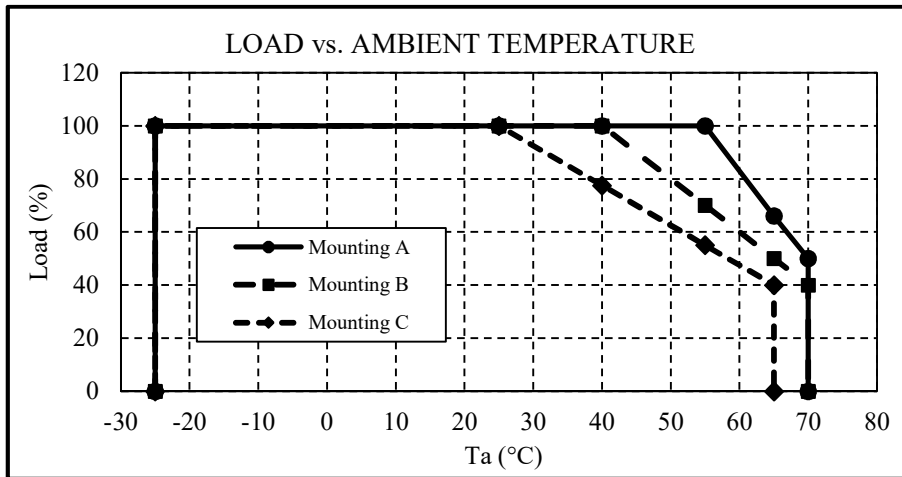
**DRJ240-24-1/E**

PA638-01-02/E-A

OUTPUT DERATING

AC input and DC input

Ta (°C)	Load (%)		
	Mounting A	Mounting B	Mounting C
-25 ~ +25	100	100	100
40	100	100	77.5
55	100	70	55
65	66	50	40
70	50	40	-



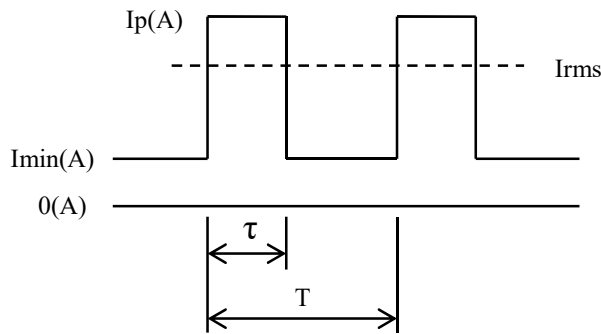
**DRJ240-24-1/E**

PA638-01-03/E

**Peak current**

Use this product so that relationship among Duty, Rms output current (I<sub>rms</sub>) and peak output power (I<sub>p</sub>) satisfy conditions defined by expression below.

Also Peak output current pulse width (τ) should be 10 sec or less, Duty should be 35% or less.



- I<sub>p</sub> : Peak output current (A)
- I<sub>rms</sub> : RMS output current (A)
- I<sub>min</sub> : Minimum output current (A)
- τ : Peak output current pulse width(sec)  
(Operating time at peak output)
- T : Period (sec)
- Duty : The duty is pulse width of peak output current of one period (%)

$$7.5 \text{ (A)} \geq I_{rms} = \sqrt{I_p^2 \times \text{Duty} + I_{min}^2 \times (1 - \text{Duty})}$$

$$\text{Duty} = \frac{\tau}{T} \times 100 \text{ (\%)} \quad \tau \leq 10 \text{ (sec)}$$