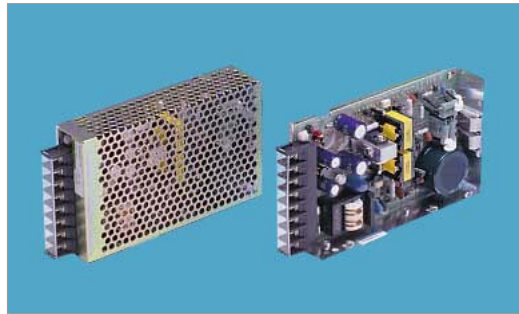


MMB50A



Features

- Regulated V1, V2
- V1 isolated from V2
- Built-in Inrush Current Protection
- Built-in Over Current Protection
- Built-in Over Voltage Protection
- RoHS Compliant

Safety Agency Approvals

- Complies with DEN-AN
- UL1950, C-UL

EMI Compliance

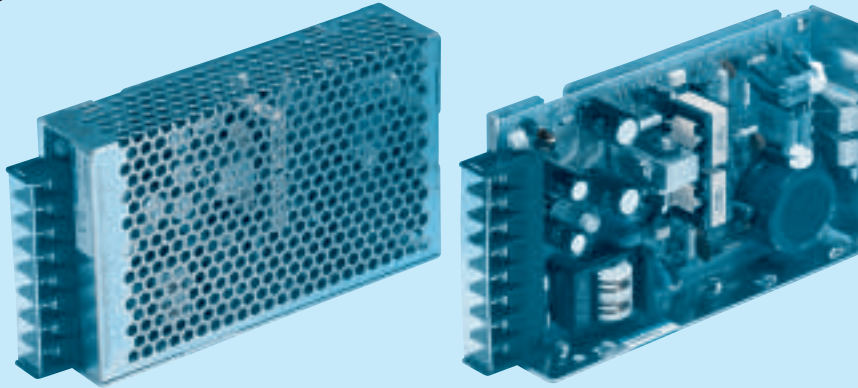
- FCC-B

2 year warranty(refer to Instruction Manual)

Model	Input Voltage [V]	Output Wattage [W]	DC Output [V/A]
MMB50A-1	DC 110 - 170 AC 85 - 132	51	5 - 12V 3A (peak 3.6A)
MMB50A-2	DC 110 - 170 AC 85 - 132	50.2	5 - 12V 2.1 - 5A
MMB50A-3	DC 110 - 170 AC 85 - 132	51	5 - 24V 1.5 - 3A (peak 1.8A)
MMB50A-4	DC 110 - 170 AC 85 - 132	50.4	12V 2.1A
MMB50A-5	DC 110 - 170 AC 85 - 132	54	12V 1.5 - 3A
MMB50A-6	DC 110 - 170 AC 85 - 132	51	15V 1.7A

- ① Series name
- ② Output wattage
- ③ Output voltage combination
- ④ Optional
 C :with Coating
 J :Connector type
 N :with Cover

RoHS



MMB

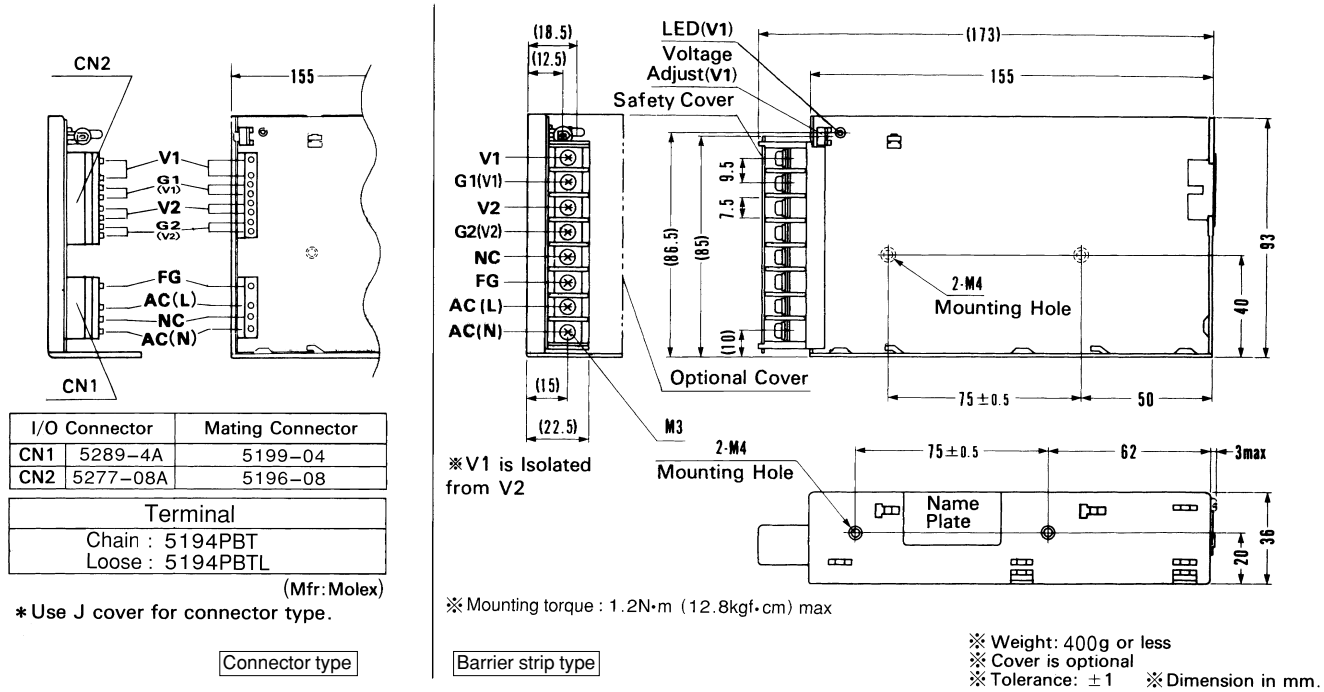
MODEL		MMB50A-1	MMB50A-2	MMB50A-3	MMB50A-4	MMB50A-5	MMB50A-6
DC OUTPUT	V1	+5V 3.0A	+5V 5.0A	+5V 3.0A	+12V 2.1A	+12V 3.0A	+15V 1.7A
	V2	+12V 3.0(Peak 3.6)A	+12V 2.1A	+24V 1.5(Peak 1.8)A	+12V 2.1A	+12V 1.5A	+15V 1.7A

SPECIFICATIONS

	MODEL	MMB50A-1		MMB50A-2		MMB50A-3		MMB50A-4		MMB50A-5		MMB50A-6		
INPUT	VOLTAGE[V]	AC85 - 132 1 φ or DC110 - 170												
	CURRENT[A]	ACIN 100V	1.4typ (Io=100%)											
	FREQUENCY[Hz]	47 - 440 or DC												
	EFFICIENCY[%]		75typ		72typ		75typ		76typ		76typ		76typ	
	INRUSH CURRENT[A]	ACIN 100V	20typ (Io=100%) (At cold start)											
OUTPUT	VOLTAGE[V]	+5	+12	+5	+12	+5	+24	+12	+12	+12	+12	+15	+15	
	CURRENT[A]	3	3 (Peak3.6)	5	2.1	3	1.5 (Peak1.8)	2.1	2.1	3	1.5	1.7	1.7	
	MINIMUM CURRENT[A]	0	0	0	0	0	0	0	0	0	0	0	0	
	LINE REGULATION[mV]	20max	48max	20max	48max	20max	96max	48max	48max	48max	48max	60max	60max	
	LOAD REGULATION[mV]	40max	100max	40max	100max	40max	150max	100max	100max	100max	100max	120max	120max	
	RIPPLE[mVp-p]	0 to +50°C	80max	120max	80max	120max	80max	120max	120max	120max	120max	120max	120max	120max
		-10 - 0°C	140max	160max	140max	160max	140max	160max	160max	160max	160max	160max	160max	160max
	RIPPLE NOISE[mVp-p]	0 to +50°C	120max	150max	120max	150max	120max	150max	150max	150max	150max	150max	150max	150max
		-10 - 0°C	160max	180max	160max	180max	160max	180max	180max	180max	180max	180max	180max	180max
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	50max	120max	50max	240max	120max	120max	120max	120max	150max	150max
START-UP TIME[ms]	100max (ACIN 85V, Io=100%)													
HOLD-UP TIME[ms]	15typ (ACIN 85V, Io=100%) 25typ (ACIN 100V, Io=100%)													
OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.5 - 5.5	Fixed	4.5 - 5.5	Fixed	4.5 - 5.5	Fixed	10.8 - 13.2	Fixed	10.8 - 13.2	Fixed	13.5 - 16.5	Fixed		
OUTPUT VOLTAGE SETTING[V]	—	11.64 - 12.36	—	11.64 - 12.36	—	23.28 - 24.72	—	11.64 - 12.36	—	11.64 - 12.36	—	14.55 - 15.45		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works at over 105% of rating (V2 works at peak current) and recovers automatically												
	OVERVOLTAGE PROTECTION	Works at 115 - 140% of rating												
ISOLATION	INPUT-CASE, OUTPUT	AC2.000V 1minute, DC500V 50MΩmin (At Room Temperature)												
	OUTPUT-CASE	AC500V 1minute, DC500V 50MΩmin (At Room Temperature)												
	OUTPUT-OUTPUT(V1-V2)	AC100V 1minute, DC100V 50MΩmin (At Room Temperature)												
ENVIRONMENT	OPERATING TEMP., HUMID. AND ALTITUDE	-10 to +65°C, 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max												
	STORAGE TEMP., HUMID. AND ALTITUDE	-25 to +75°C, 20 - 95%RH (Non condensing), 9,000m (30,000feet) max												
	VIBRATION	10 - 55Hz, 19.6m/s ² (2G), 3minutes period, 30minutes each along X, Y and Z axis												
	IMPACT	196.1m/s ² (20G), 11ms, once each X, Y and Z axis												
SAFETY AND NOISE REGULATIONS	AGENCY APPROVALS	UL60950-1, C-UL Complies with DEN-AN												
	CONDUCTED NOISE	Complies with FCC-B												

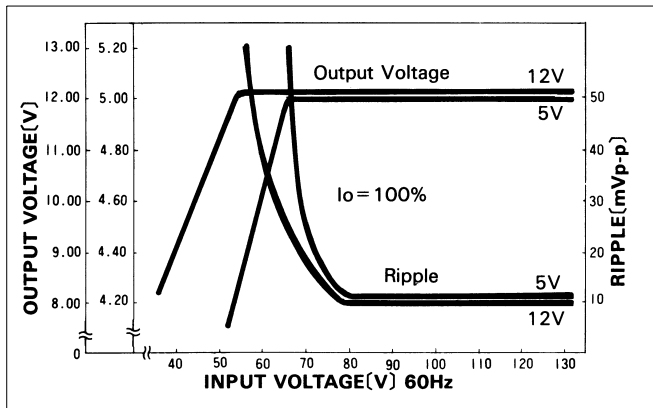
* Series/Parallel operation with other model is not possible.
 * Derating is required when operated with case cover.

External view

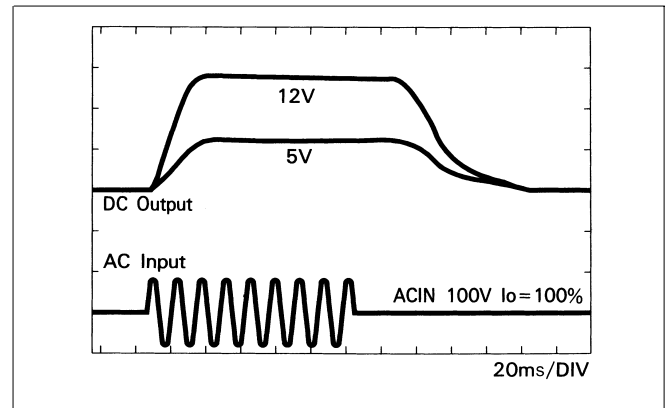


Performance data

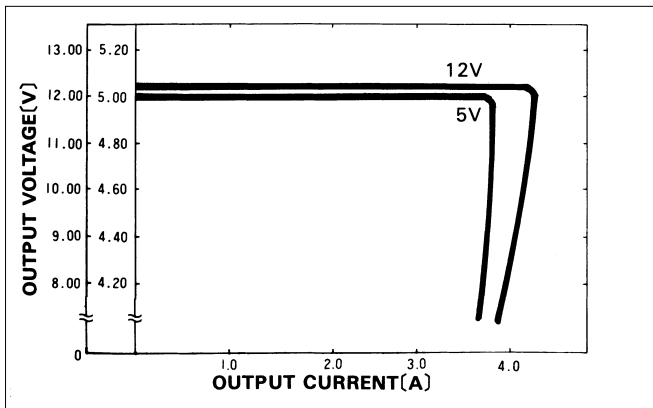
■ STATIC CHARACTERISTICS (MMB50A-1)



■ RISE TIME & FALL TIME (MMB50A-1)



■ OVERCURRENT CHARACTERISTICS (MMB50A-1)



■ DERATING CURVE

