

MMI

**DC/DC CONVERTER
5~6W**



66D SERIES

WIDE INPUT VOLTAGE RANGE

5 WATTS DC-DC CONVERTER

FEATURES

- 2:1 WIDE INPUT VOLTAGES:9-18V,18-36V,36-72V
- 5 WATTS 2x2x0.4inches PACKAGE
- EFFICIENCY TO 80%
- PI INPUT FILTER



GENERAL SPECIFICATIONS

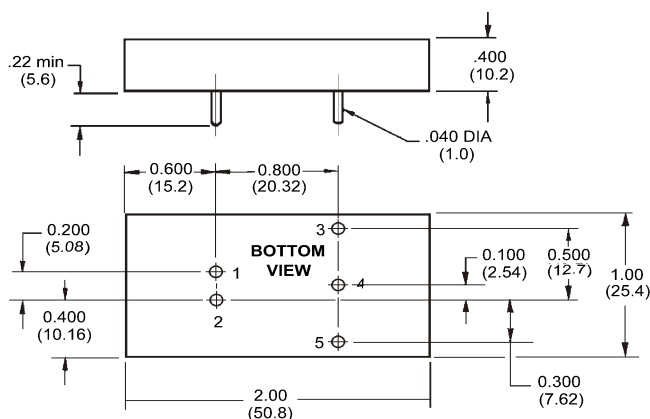
- SWITCHING FREQUENCY : 100KHz TYP.
- OUTPUT RIPPLE & NOISE : 100mVp-p(20MHz B.W.)
- ISOLATION VOLTAGE : 1500VDC
- ISOLATION RESISTANCE : 10^9 ohms
- STORAGE TEMPERATURE RANGE : -40°C TO 100°C
- OPERATING TEMPERATURE RANGE : -25°C TO +71°C
- SHORT CIRCUIT PROTECTION : CONTINUOUS
- CASE MATERIAL : BLACK COATED COPPER WITH NON-CONDUCTIVE BASE

ELECTRICAL SPECIFICATIONS

- INPUT VOLTAGE RANGE : 12V nominal ...9-18V
: 24V nominal ...18-36V
: 48V nominal ...36-72V
- OUTPUT VOLTAGE ACCURACY : $\pm 2\%$
- LINE REGULATION : $\pm 0.5\%$
- LOAD REGULATION(SINGLE) : $\pm 0.5\%$
- LOAD REGULATION(DUAL) : $\pm 2\%$
- EFFICIENCY : see table
- EMI/RFI : six-sided continuous shield

PART NO.	INPUT RANGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY (%)
66D-12S05R	9-18VDC	5VDC	1000mA	73
66D-12S12R	9-18VDC	12VDC	470mA	80
66D-12S15R	9-18VDC	15VDC	400mA	80
66D-12D12R	9-18VDC	± 12 VDC	± 230 mA	80
66D-12D15R	9-18VDC	± 15 VDC	± 190 mA	80
66D-24S05R	18-36VDC	5VDC	1000mA	74
66D-24S12R	18-36VDC	12VDC	470mA	82
66D-24S15R	18-36VDC	15VDC	400mA	82
66D-24D12R	18-36VDC	± 12 VDC	± 230 mA	82
66D-24D15R	18-36VDC	± 15 VDC	± 190 mA	82
66D-48S05R	36-72VDC	5VDC	1000mA	78
66D-48S12R	36-72VDC	12VDC	470mA	81
66D-48S15R	36-72VDC	15VDC	400mA	81
66D-48D12R	36-72VDC	± 12 VDC	± 230 mA	81
66D-48D15R	36-72VDC	± 15 VDC	± 190 mA	81

MARKINGS AND DIMENSIONS



PIN CONNECTION

PIN	SINGLE	DUAL
1	+VIN	+VIN
2	-VIN	-VIN
3	+VOUT	+VOUT
4	NO PIN	Common
5	-VOUT	-VOUT

Dimensions: inches/mm

Unless otherwise specified, all tolerances are $\pm 0.005/\pm 0.13$



WIDE INPUT VOLTAGE RANGE

68D5 SERIES 5-6 WATTS DC-DC CONVERTER

FEATURES

- 2:1 WIDE INPUT VOLTAGES:9-18V,18-36V,36-72V
- 5-6 WATTS 24PIN DIL(1.25x0.8x0.4inches) PACKAGE
- EFFICIENCY TO 82%
- PI INPUT FILTER



GENERAL SPECIFICATIONS

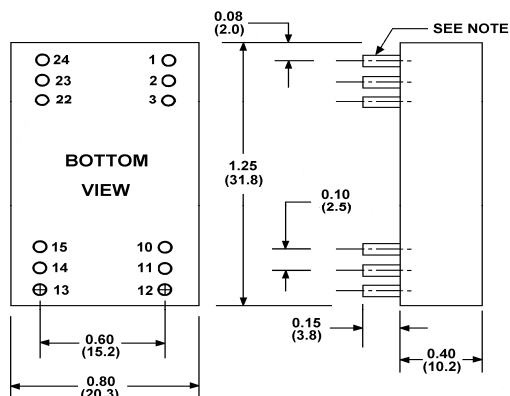
- SWITCHING FREQUENCY : 100KHz TYP.
- OUTPUT RIPPLE & NOISE : 100mVp-p(20MHz B.W.)
- ISOLATION VOLTAGE : 500VDC
- ISOLATION RESISTANCE : 10^9 ohms
- STORAGE TEMPERATURE RANGE : -40°C TO 100°C
- OPERATING TEMPERATURE RANGE : -25°C TO +71°C
- SHORT CIRCUIT PROTECTION : CONTINUOUS
- CASE MATERIAL : BLACK COATED COPPER WITH NON-CONDUCTIVE BASE

ELECTRICAL SPECIFICATIONS

- INPUT VOLTAGE RANGE : 12V nominal ...9-18V
: 24V nominal ...18-36V
: 48V nominal ...36-72V
- OUTPUT VOLTAGE ACCURACY : $\pm 2\%$
- LINE REGULATION : $\pm 0.5\%$
- LOAD REGULATION(SINGLE) : $\pm 0.5\%$ (F.L. to 10% Load)
- LOAD REGULATION(DUAL) : $\pm 1.0\%$ (F.L. to 1 / 4 Load)
- EFFICIENCY : see table

PART NO.	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		EFFICIENCY (%)
				NO LOAD	FULL LOAD	
68D5-12S03R	9-18VDC	3.3VDC	1000mA	7.5mA	405mA	68
68D5-12S05R	9-18VDC	5VDC	1000mA	7.5mA	545mA	76
68D5-12S12R	9-18VDC	12VDC	470mA	7.5mA	585mA	80
68D5-12S15R	9-18VDC	15VDC	400mA	7.5mA	625mA	80
68D5-12D05R	9-18VDC	± 5 VDC	± 500 mA	12 A	545mA	76
68D5-12D12R	9-18VDC	± 12 VDC	± 230 mA	12 A	575mA	80
68D5-12D15R	9-18VDC	± 15 VDC	± 190 mA	12 A	590mA	80
68D5-24S03R	18-36VDC	3.3VDC	1000mA	5mA	195mA	70
68D5-24S05R	18-36VDC	5VDC	1000mA	5mA	265mA	78
68D5-24S12R	18-36VDC	12VDC	470mA	5mA	285mA	82
68D5-24S15R	18-36VDC	15VDC	400mA	5mA	305mA	82
68D5-24D05R	18-36VDC	± 5 VDC	± 500 mA	7.5mA	265mA	78
68D5-24D12R	18-36VDC	± 12 VDC	± 230 mA	7.5mA	285mA	81
68D5-24D15R	18-36VDC	± 15 VDC	± 190 mA	7.5mA	295mA	81
68D5-48S03R	36-72VDC	3.3VDC	1000mA	2mA	98mA	70
68D5-48S05R	36-72VDC	5VDC	1000mA	2mA	133mA	78
68D5-48S12R	36-72VDC	12VDC	470mA	2mA	145mA	81
68D5-48S15R	36-72VDC	15VDC	400mA	2mA	154mA	81
68D5-48D05R	36-72VDC	± 5 VDC	± 500 mA	3mA	265mA	78
68D5-48D12R	36-72VDC	± 12 VDC	± 230 mA	3mA	142mA	81

MARKINGS AND DIMENSIONS



Dimensions: inches/mm

Unless otherwise specified, all tolerances are $\pm 0.005/\pm 0.13$

PIN CONNECTION

PIN	SINGLE	DUAL
2,3	-INPUT	-INPUT
9	NC	COMMON
11	NC	-OUTPUT
14	+OUTPUT	+OUTPUT
16	-OUTPUT	COMMON
22,23	+INPUT	+INPUT

FEATURES

- UP TO 6 WATTS OUTPUT POWER
- 2"x2"x0.4 INCHES PACKAGE
- PI INPUT FILT
- LOW RIPPLE AND NOISE
- REGULATED OUTPUT TYPES



GENERAL SPECIFICATIONS

- ISOLATION RESISTANCE : 500VDC MIN.
- ISOLATION RESISTANCE : 100mΩ MIN@500VDC
- SWITHING FREQUENCY : 50KHz TYP.
- OPERATING TEMPERATURE RANGE :-25°C TO 85°C
- STORAGE TEMPERATURE RANGE :-40°C TO +100°C
- SHORT CIRCUIT PROTECTION : CONTINUOUS
- CASE MATERIAL : BLACK COATED COPPER WITH NON-CONDUCTIVE BASE

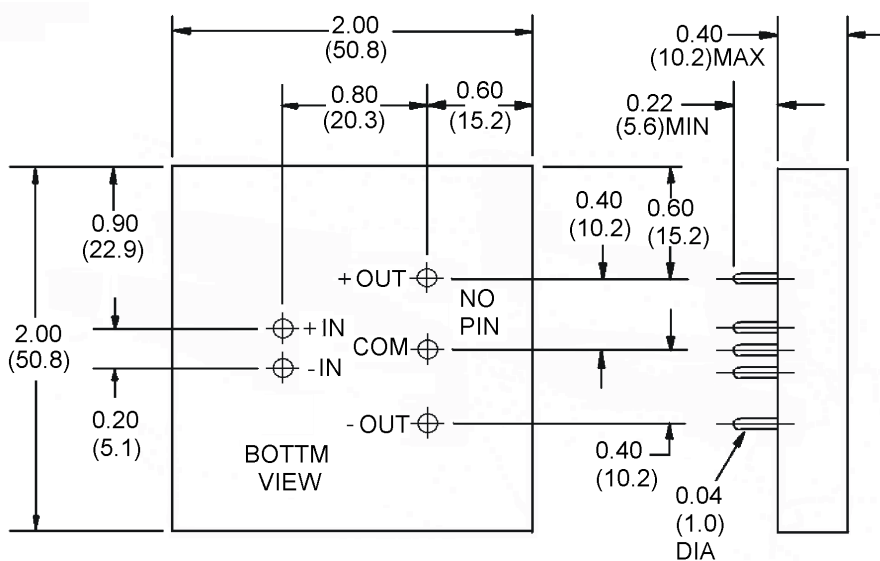
ELECTRICAL SPECIFICATIONS

- INPUT VOLTAGE RANGE : ±10%
- OUTPUT VOLTAGE ACCURACY : ±5%
- LINE REGULATION : ±0.3%
- LOAD REGULATION : ±0.5%
- OUTPUT RIPPLE AND NOISE : 50mVp-p(20MHz B.W.)
- EFFICIENCY : 60%

PART NO.	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY (%)
82D-05S05R	5VDC	5VDC	1200mA	60
82D-05S12R	5VDC	12VDC	500mA	65
82D-05D15R	5VDC	±15VDC	±200mA	65
82D-12S12R	12VDC	12VDC	500mA	65
82D-12S15R	12VDC	15VDC	400mA	65
82D-12D12R	12VDC	±12VDC	±250mA	65
82D-24S05R	24VDC	5VDC	1200mA	60
82D-24S15R	24VDC	15VDC	500mA	65
82D-24D12R	24VDC	±12VDC	±250mA	65
82D-48D15R	48VDC	15VDC	400mA	65
82D-48D12R	48VDC	±12VDC	±250mA	65
82D-48D15R	48VDC	±15VDC	±200mA	65

MARKINGS AND DIMENSIONS

PIN CONNECTION

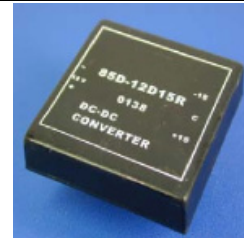


PIN	SINGLE OUTPUT
1	+INPUT
2	-INPUT
3	+OUTPUT
4	NC
5	-OUTPUT

PIN	DUAL OUTPUT
1	+INPUT
2	-INPUT
3	+OUTPUT
4	COMMON
5	-OUTPUT

FEATURES

- UP TO 5 WATTS OUTPUT POWER
- 2"x2"x0.4 INCHES PACKAGE
- PI INPUT FILT
- LOW RIPPLE AND NOISE
- REGULATED OUTPUT TYPES



GENERAL SPECIFICATIONS

- ISOLATION RESISTANCE : 500VDC MIN.
- ISOLATION RESISTANCE : 100mΩ MIN@500VDC
- SWITHING FREQUENCY : 20KHz TYP.
- OPERATING TEMPERATURE RANGE : 0°C TO 70°C
- STORAGE TEMPERATURE RANGE : -40°C TO +100°C
- SHORT CIRCUIT PROTECTION : CONTINUOUS
- CASE MATERIAL : BLACK COATED COPPER WITH NON-CONDUCTIVE BASE

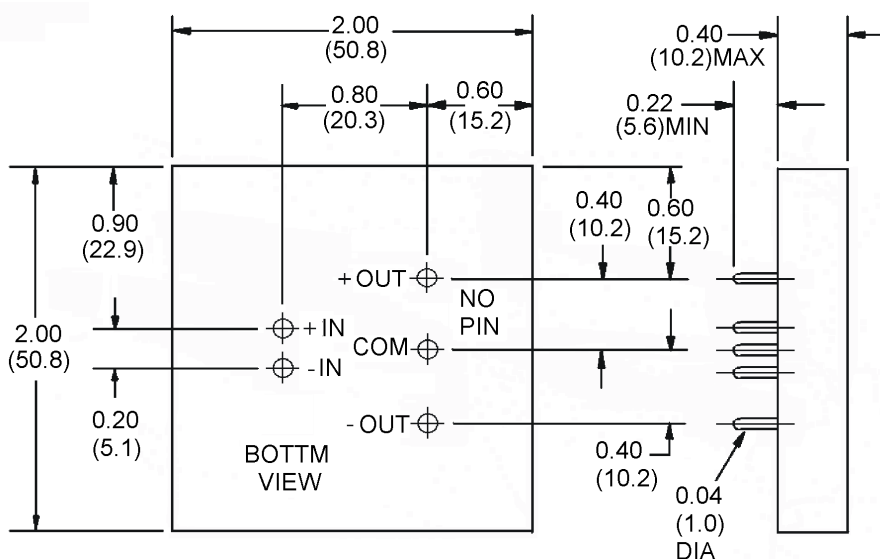
ELECTRICAL SPECIFICATIONS

- INPUT VOLTAGE RANGE : ±10%
- OUTPUT VOLTAGE ACCURACY : ±5%
- LINE REGULATION : ±0.3%
- LOAD REGULATION : ±0.5%
- OUTPUT RIPPLE AND NOISE : 50mVp-p(20MHz B.W.)
- EFFICIENCY : 60%

PART NO.	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY (%)
85D-05S05R	5VDC	5VDC	1000mA	60
85D-05S12R	5VDC	12VDC	470mA	65
85D-05D15R	5VDC	±15VDC	±190mA	65
85D-12S12R	12VDC	12VDC	470mA	65
85D-12S15R	12VDC	15VDC	400mA	65
85D-12D12R	12VDC	±12VDC	±230mA	65
85D-24S05R	24VDC	5VDC	1000mA	60
85D-24S15R	24VDC	15VDC	400mA	65
85D-24D12R	24VDC	±12VDC	±230mA	65
85D-48D15R	48VDC	15VDC	400mA	65
85D-48D12R	48VDC	±12VDC	±230mA	65
85D-48D15R	48VDC	±15VDC	±190mA	65

MARKINGS AND DIMENSIONS

PIN CONNECTION



PIN	SINGLE OUTPUT
1	+INPUT
2	-INPUT
3	+OUTPUT
4	NC
5	-OUTPUT

PIN	DUAL OUTPUT
1	+INPUT
2	-INPUT
3	+OUTPUT
4	COMMON
5	-OUTPUT