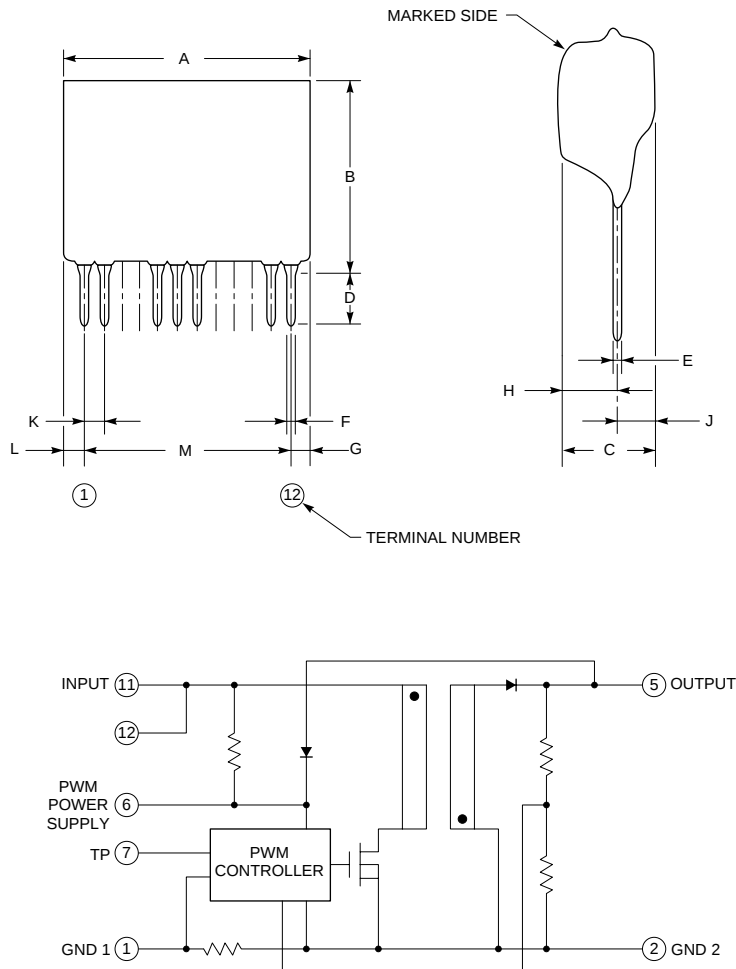
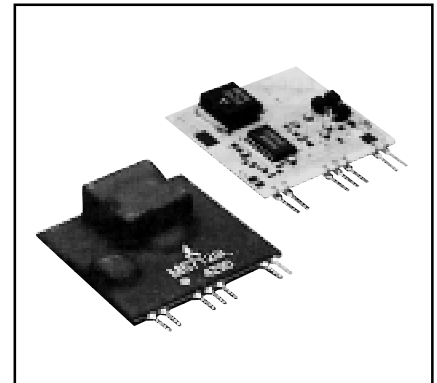


M57120L**HIGH VOLTAGE INPUT dc-dc CONVERTER****Outline Drawing and Circuit Diagram**

Dimensions	Inches	Millimeters
A	1.46	37.0 MAX
B	1.46	39.0 MAX
C	.63	16.0 MAX
D	.18±.06	4.5±1.5
E	.01±.01	0.35±0.2
F	.02±0.004	0.55±0.1

Dimensions	Inches	Millimeters
G	0.16	4.0 MAX
H	0.37	9.5 MAX
J	0.26	6.5 MAX
K	0.1	2.54
L	.2	5.0 MAX
M	1.1	27.94

**Description:**

M57120L is a non-isolated DC-to-DC converter with a built-in transformer. Wide range of input voltage (DC 113V-400V) enables direct connection to rectified 120V and 240V AC. This device is best suited for use as a pre-regulator for standard DC-to-DC converters.

Features:

- ☐ Wide Range of Input Source Voltage (113V-400V DC)
- ☐ Built-in Surface-mount Transformer
- ☐ SIP Structure Enables Efficient use of PCB Area

Applications:

- ☐ Power Source for Standard DC-to-DC Converters
- ☐ Pre-regulator

Ordering Information:

M57120L

M57120L

HIGH VOLTAGE INPUT dc-dc CONVERTER

Absolute Maximum Ratings, $T_a = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

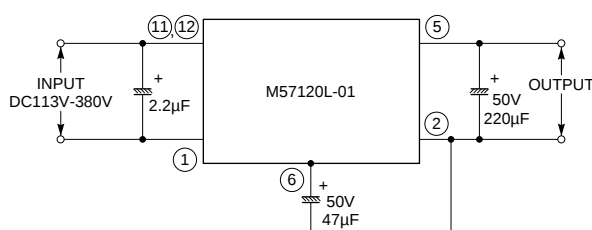
Characteristics	Symbol	Test Conditions	M57120L	Units
Input Voltage	V_{IN}	11, 12-1 pin	380	Volts
Operating Temperature	T_{opr}	There Should be	-10 ~ +75	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	No Condensation	-20 ~ +85	$^{\circ}\text{C}$
Output Power	P_{OW}	—	4.4	Watts

Electrical Characteristics, $V_{IN} = 280\text{V}$, $T_a = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

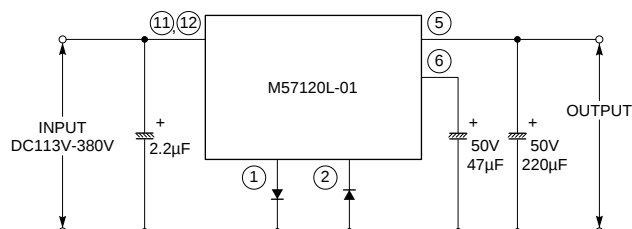
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Input Source Voltage	V_{IN}	Direct Current	113	280	380	Volts
Circuit Current	I_B	$V_{IN} = 113\text{V}$	—	5.4	6.0	mA
		$V_{IN} = 280\text{V}$	—	4.9	5.5	mA
		$V_{IN} = 380\text{V}$	—	5.3	5.9	mA
Output Voltage	V_O	$I_L = 0 \sim 200\text{mA}$	18	20	22	Volts
Load Current	I_L	$V_{IN} = 113 \sim 380\text{V}$	—	200	220	mA
Input Regulation	Reg-in	$V_{IN} = 113 \sim 380\text{V}$	—	-0.8	-1.4	Volts
Output Regulation	Reg-out	$I_L = 0 \sim 200\text{mA}$	—	1.2	2.0	Volts

Application Circuit

WHEN INPUT-OUTPUT GND ARE SEPARATED



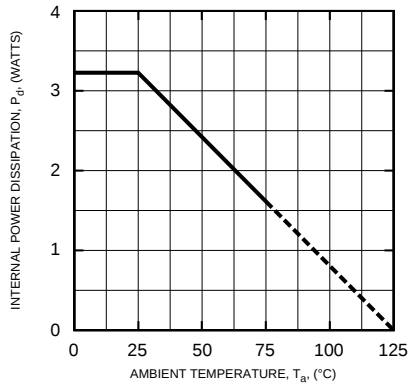
WHEN INPUT-OUTPUT GND ARE NOT SEPARATED



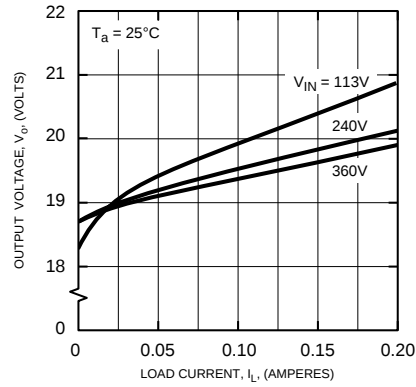
M57120L

HIGH VOLTAGE INPUT dc-dc CONVERTER

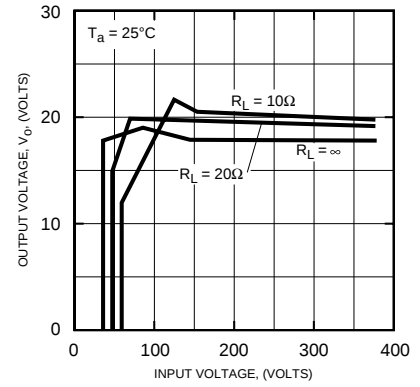
DERATING CURVE



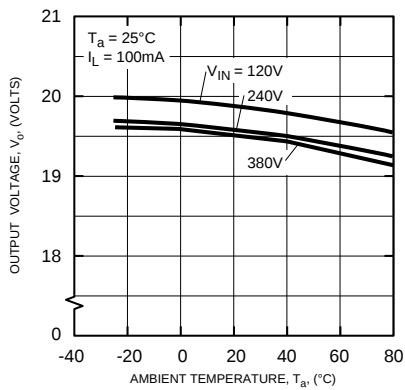
OUTPUT VOLTAGE -
LOAD CURRENT CHARACTERISTICS



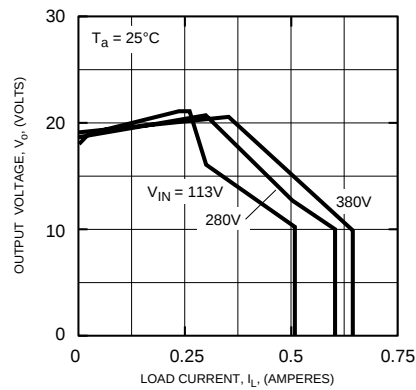
OUTPUT VOLTAGE -
INPUT VOLTAGE CHARACTERISTICS



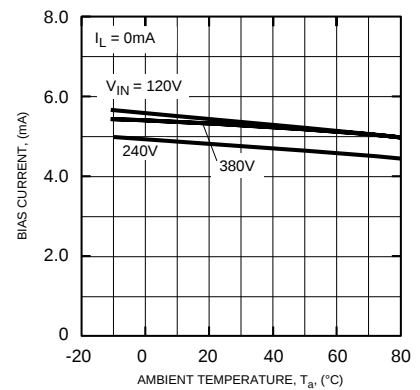
OUTPUT VOLTAGE -
AMBIENT TEMPERATURE CHARACTERISTICS



OUTPUT REGULATION



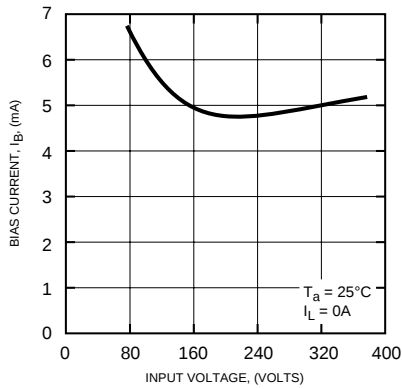
BIAS CURRENT AMBIENT
TEMPERATURE CHARACTERISTICS



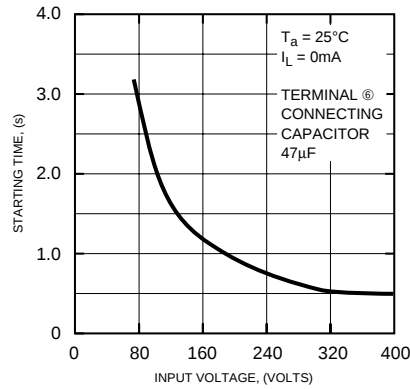
M57120L

HIGH VOLTAGE INPUT dc-dc CONVERTER

BIAS CURRENT -
INPUT VOLTAGE CHARACTERISTICS



START-UP TIME -
INPUT VOLTAGE CHARACTERISTICS



EFFICIENCY - LOAD
CURRENT CHARACTERISTICS

