



### Hybrid Gate Drive Power Supply

#### Description:

M57145L-01 is a DC-to-DC converter designed to provide isolated power for IGBT gate drive. When supplied with an input voltage of 12V to 18V DC the M57145L-01 will produce a +15.8V / -8.2V output suitable for use with Powerex hybrid IGBT gate drivers. The isolation between the primary and secondary of the M57145L-01 has been optimized to provide the high dv/dt noise immunity required in IGBT power circuits.

#### Features:

- Wide Input Voltage Range: 12V to 18V DC
- Isolated, Regulated Output: 24 V<sub>DC</sub> @ 100mA
- Output Over Current Protection
- Built-in 8.2V Off-bias Supply Regulator
- Primary to Secondary Isolation 2500 V<sub>RMS</sub>
- Small Footprint – SIP Design

#### Applications:

Isolated power supply for Powerex hybrid IGBT gate drivers: M57957L, M57958L, M57159L, M57959L, M57962L, and M57962CL in general purpose inverters, AC servo, and power supply applications.



Powerex, Inc., 200 E. Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

M57145L-01  
 DC-to-DC Converter  
 Hybrid Gate Drive Power Supply

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

Item	Symbol	Test Conditions	Limit	Units
Input Voltage	$V_I$	—	18	Volts
Load Current 1	$I_{L1}$	③ pin Output Current	100*	mA
Operating Temperature	$T_{opr}$	No Condensation	-10 ~ 70	$^\circ\text{C}$
Storage Temperature	$t_{stg}$	No Condensation	-20 ~ 85	$^\circ\text{C}$
Electrical Isolation between Input and Outputs	$V_{RMS}$	Sinewave Voltage, 60Hz, 1 min.	2500	Volts

**Electrical Characteristics,  $T_a = 25^\circ\text{C}$ ,  $V_{IN} = 15\text{V}$  unless otherwise specified**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Input Voltage	$V_I$	Recommended Range	12	—	18	Volts
Output Voltage 1	$V_{O1}$	③ pin Voltage, $I_O = 0 \sim 60\text{mA}$	22.8	24.0	25.2	Volts
Output Voltage 2	$V_{O2}$	② pin Voltage, No Load of ②, ③ pins	7.96	8.2	8.43	Volts
Input Regulation	Reg-I	$I_L = 60\text{mA}$ , $V_I = 12 \sim 18\text{V}$ , No Load of ② pin	—	—	50	mV
Load Regulation	Reg-L	$I_L = 0 \sim 60\text{mA}$ , No Load of ② pin	—	—	50	mV
Efficiency	$\eta$	$I_L = 60\text{mA}$ , No Load of ② pin	—	68	—	%

\*Refer to the Derating Characteristic Curve.

