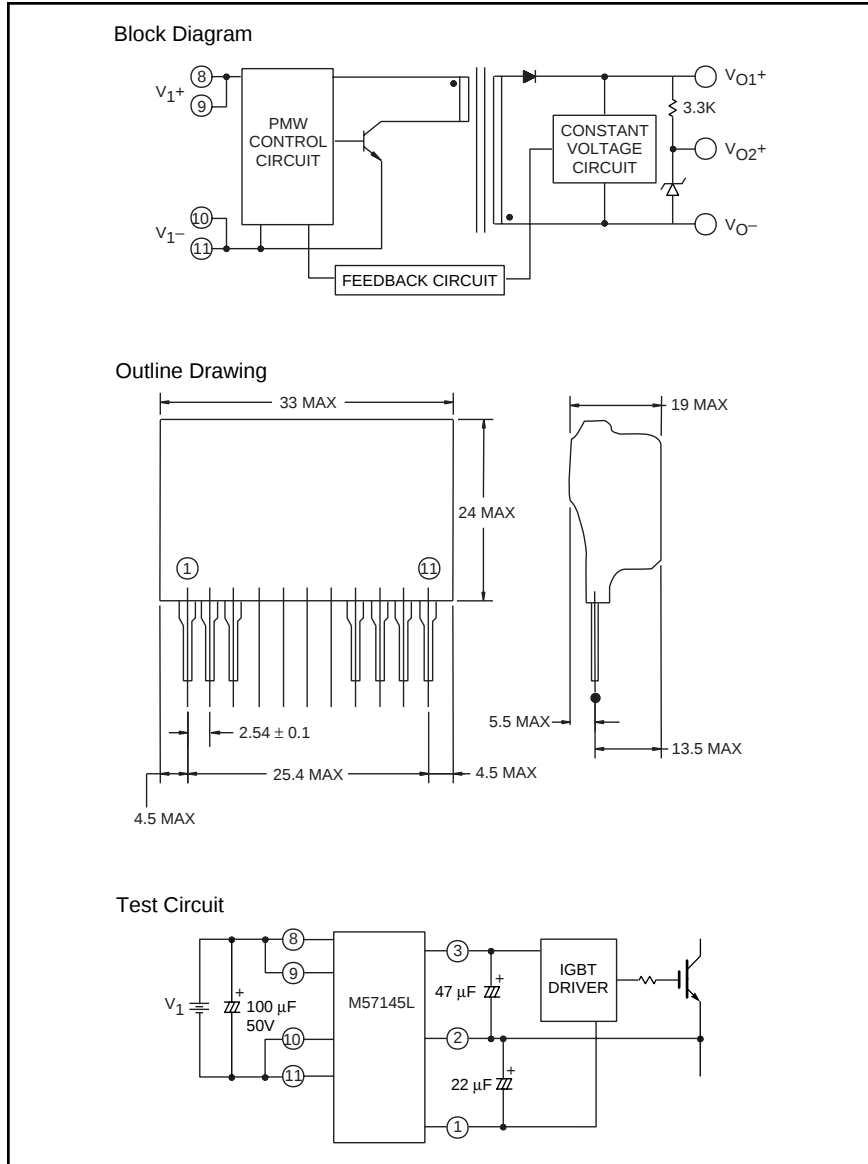




Hybrid Gate Drive Power Supply

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_{DC} @ 100mA
- ☐ Output Over Current Protection
- ☐ Built-in 8.2V Off-bias Supply Regulator
- ☐ Primary to Secondary Isolation 2500 V_{RMS}
- ☐ 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.

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	η	$I_L = 60\text{mA}$, No Load of ② pin	—	68	—	%

*Refer to the Derating Characteristic Curve.

