

The C12944 series is a UVTRON driving circuit consisting of a compact high-voltage power supply and a signal processing circuit.

When a UVTRON is connected, it operates by supplying a low voltage to the C12944 series. The signal processing circuit cancels out sporadic background noise which may occur in the UVTRON due to the background radiation (such as cosmic rays and unexpected UV light).

The C12944 series has a DIP switch for selecting the UVTRON supply voltage so that it can be used with various types of UVTRON. The C12944 series is available with different output pulse time widths (identified by type number suffix).

The C12944 series is also designed for heat resistance up to 100 °C and so can be used in high temperature environments.



FEATURES

- Choice of UVTRON supply voltage: Supports various types of UVTRON
- Compact and lightweight
- Low current consumption
- High heat resistance

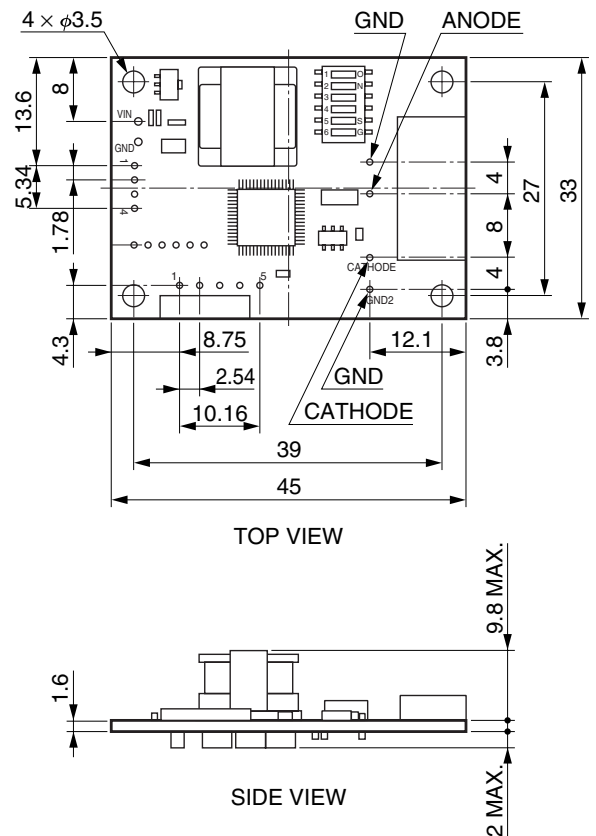
SPECIFICATIONS

Parameter		Description / Value	Unit
Signal output		Open collector output	—
	Output voltage (Max.)	40 or less	V
	Output current (Max.)	50 or less	mA
	Output pulse time width	C12944: 10 C12944-02: 2 C12944-03: 1	ms
UVTRON supply voltage (DC) ^{(A)(B)}	310 / 325 / 350 / 400 / 500	V	
Quenching time	C12944	Approx. 18	ms
	C12944-02	Approx. 2	
	C12944-03	Approx. 1	
Supply voltage (DC)	12 to 24	V	
Current consumption (Max.)	6	mA	
Operating temperature range	-10 to +100	°C	
Operating humidity range	Below 80 % (no condensation)	—	

NOTE: ^(A)The UVTRON supply voltage can be selected to match the UVTRON being used.

^(B)Since the power impedance of the C12944 series is very high, the supply voltage cannot be measured with an ordinary voltmeter. Use a measuring device with an input impedance of more than 10 GΩ to measure the supply voltage.

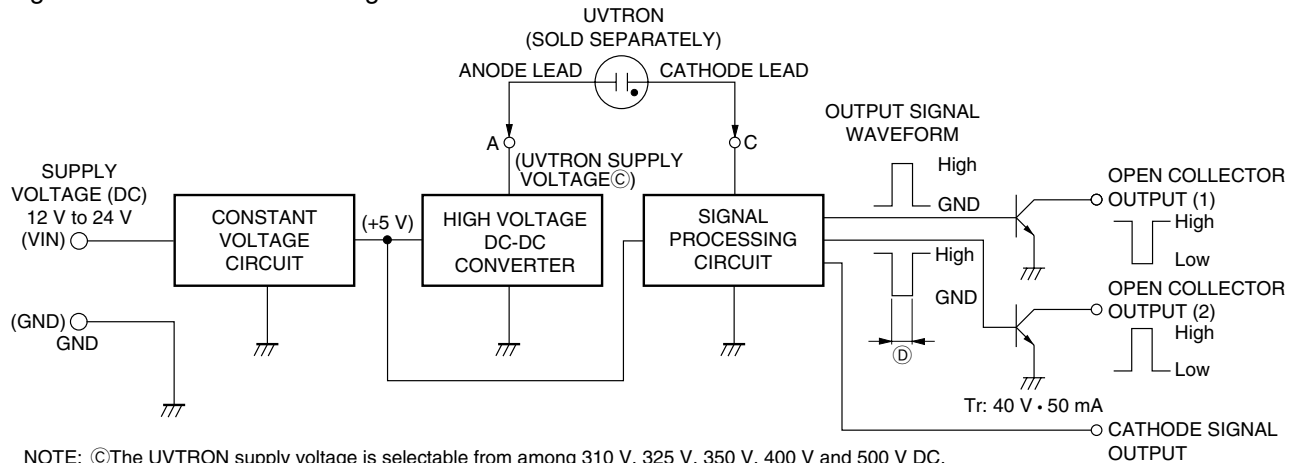
Figure 1: Dimensional outlines (Unit: mm)



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UVTRON[®] COMPACT DRIVING CIRCUIT C12944 SERIES

Figure 2: Schematic circuit diagram



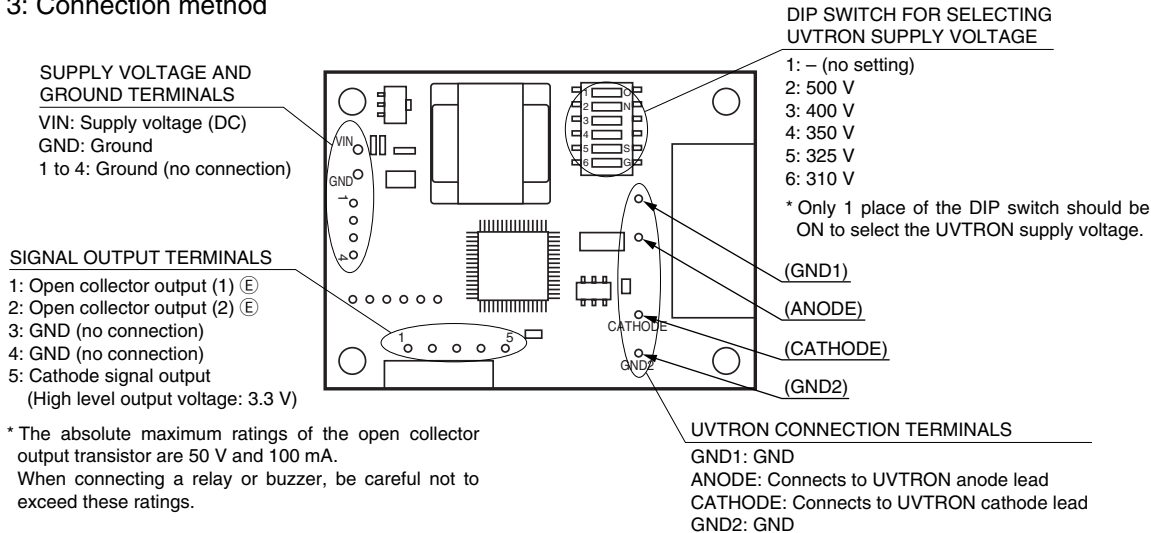
NOTE: ① The UVTRON supply voltage is selectable from among 310 V, 325 V, 350 V, 400 V and 500 V DC.

② The output pulse time width differs as follows.

Type No.	Output pulse time width
C12944	10 ms
C12944-02	2 ms
C12944-03	1 ms

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Figure 3: Connection method



The background canceling circuit of the C12944 series is designed to output a signal only when 3 or more signal pulses from the UVTRON are detected consecutively within 2 seconds.

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■ PRECAUTIONS FOR USE

- Since the operation impedance of this product is very high, the UVTRON should be connected as close as possible to the circuit board within 5 cm.
- Take care to protect from external noise since a C-MOS IC is used in the circuit. It is recommended that the circuit board be put in a metal case during use.
- The DC-DC converter type high-voltage power supply of this product has a very high output impedance. If the ambient humidity is high, then electrical leakage on the circuit board surface might cause a drop in the UVTRON supply voltage. This voltage drop in the UVTRON supply voltage lowers the sensitivity and causes malfunction. If using this product in a high humidity environment, apply silicon-based moisture-proof agent to the UVTRON connection terminals.

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