

The C14051 series realizes compact size, high conversion efficiency, high stabilization circuit and high reliability by various protective functions.

FEATURES

- High output voltage: Max. 10 kV / 0.2 mA
- Wide input voltage range: +11 V to +16 V
- Compact and high conversion efficiency
- High voltage and current monitor output
- Various protective functions



CE (C14051-15 only)

SPECIFICATIONS

Parameter		C14051-15 ^①	C14051-55 ^①	Unit
Input voltage (V _{CC})		+11 to +16		V
Input current ^{②④⑤}	Typ.	260		mA
Output voltage control		By external controlling voltage (0 V to +5 V) or external potentiometer (50 kΩ)		—
Controlling voltage input impedance		80		kΩ
Specification guaranteed output voltage range ^③		-2000 to -10000	+2000 to +10000	V
Output accuracy ^④	Typ.	±2		%
Line regulation (against +11 V to +16 V input change)	Max.	±0.1		%
Load regulation (against 0 % to 100 % load change)	Max.	±0.1		%
Temperature coefficient ^{⑤⑥}	Typ.	±0.01		%/°C
Ripple / Noise (p-p) ^{④⑤}	Typ.	0.1		V
Output voltage rise time (0→99 %) ^{④⑤}	Typ.	200		ms
Output current	Max.	0.2		mA
High voltage monitor output	Range	0 to +2.5		V
	Accuracy Max.	2		%
Current monitor output	Range	0 to +4.0		V
	Accuracy Max.	2		%
Reference voltage output (V _{ref})	Typ.	+5.1		V
Operating ambient temperature ^{④⑤⑥}		-10 to +60		°C
Storage temperature ^⑥		-20 to +70		°C
Dimensional outline		W 98 × D 45 × H 25 ^⑦		mm
Weight		160		g
Protective functions		Installed input FUSE for over current ^⑧ / Reversed power input protection Over-temperature protection / Overvoltage protection for controlling voltage Output overload protection / Output overvoltage protection		—

NOTE: ① The specification table is typical value unless there is a definition such as "Max."

② V_{CC}=+12 V

③ The voltage from 0 V to 2000 V can be output but all characteristics are not necessarily satisfied

④ At maximum output voltage ⑤ At maximum output current

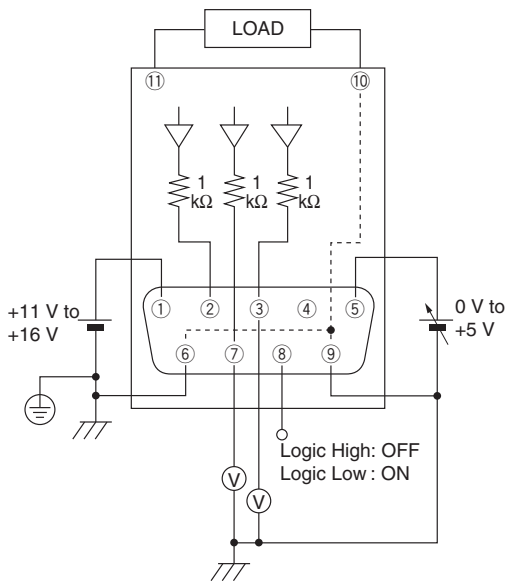
⑥ At ambient humidity below 80 % (no condensation)

⑦ Excluding the projection and the cable ⑧ Not exchangeable

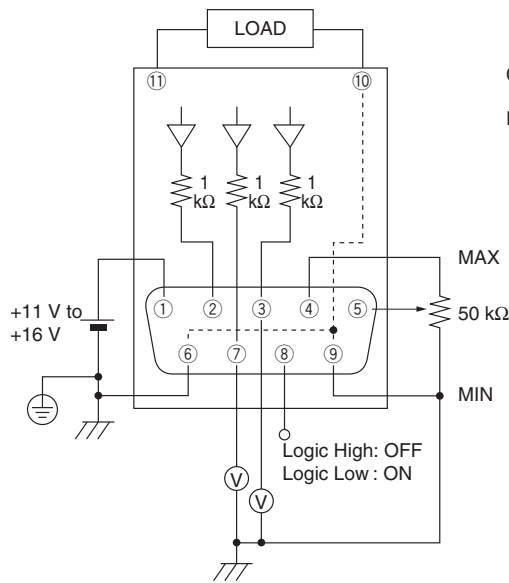
10 kV OUTPUT HIGH VOLTAGE POWER SUPPLY C14051 SERIES

Figure 1: Output voltage controlling

●BY EXTERNAL VOLTAGE



●BY EXTERNAL POTENTIOMETER



Connector: D-sub 9 pin

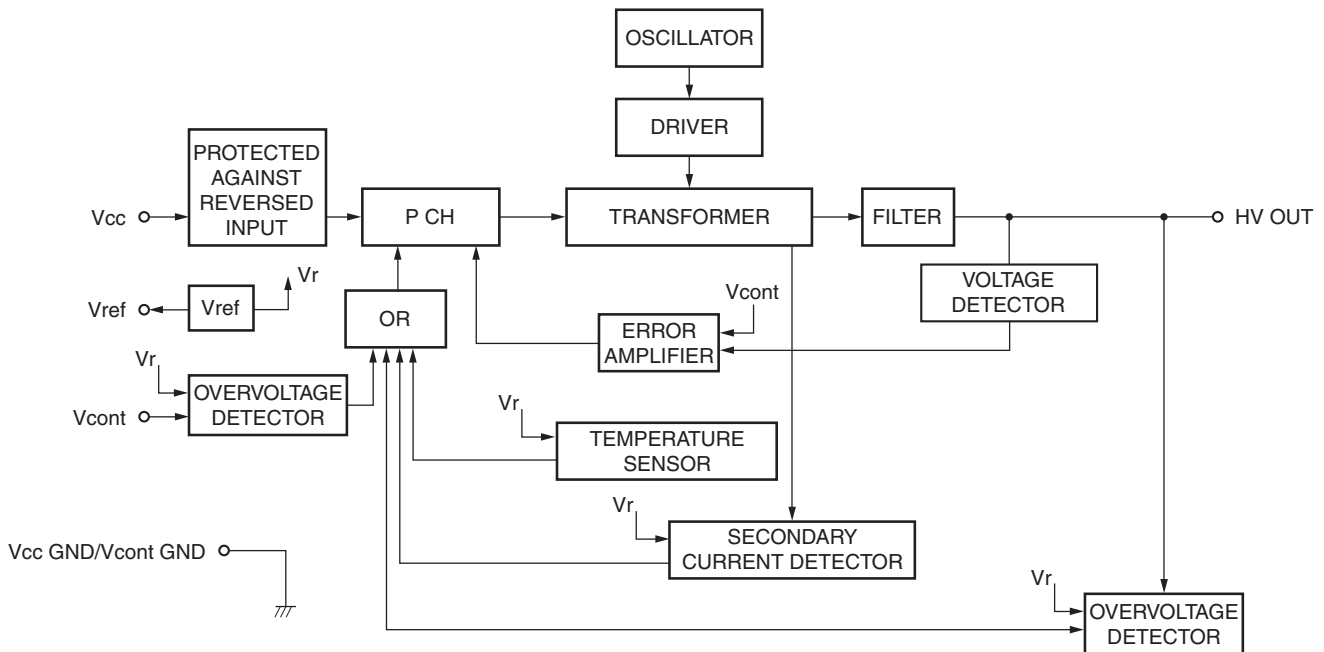
PIN ASSIGNMENT

- ① Vcc +11 V to +16 V
- ② ERROR OUT (0 V or +5 V)
- ③ CURRENT MONITOR OUT
- ④ Vref +5.1 V
- ⑤ Vcont 0 V to +5 V
- ⑥ Vcc GND
- ⑦ HV MONITOR OUT
- ⑧ ON / OFF IN
- ⑨ Vcont GND
- ⑩ HV GND
- ⑪ HV OUT

- * The instability in the external controlling voltage should be minimized as it directly affects the output voltage quality
- * The housing is internally connected to pin ⑥.
- * Pin ⑥ and Pin ⑨ and ⑩ are internally connected.

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Figure 2: Circuit block diagram



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Figure 3: Long-term stability

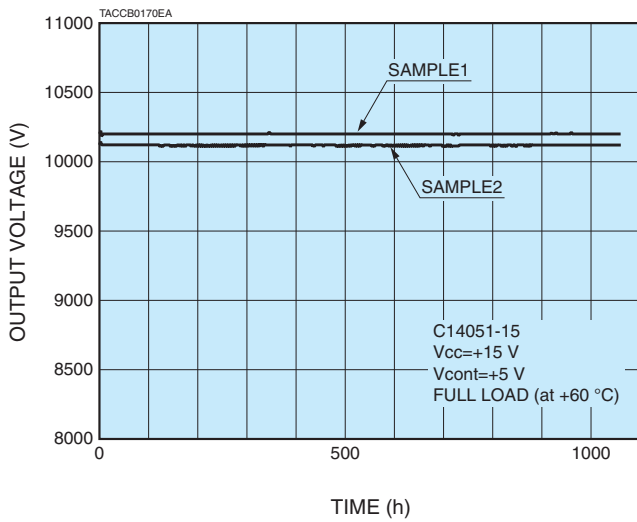


Figure 4: Short-term stability

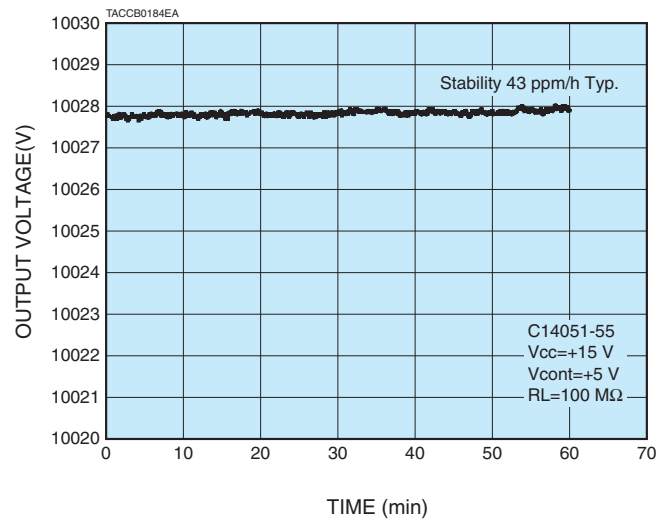


Figure 5: Ripple / Noise

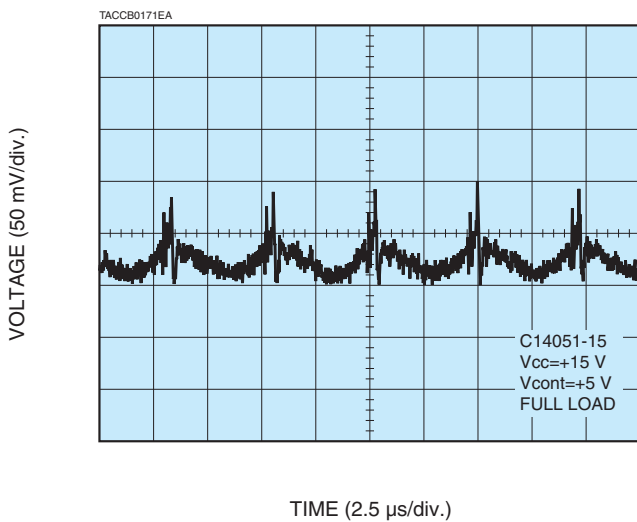


Figure 6: Monitor voltage vs. output voltage

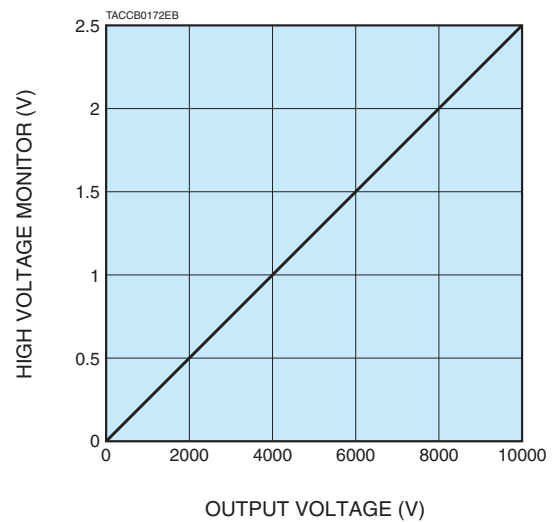
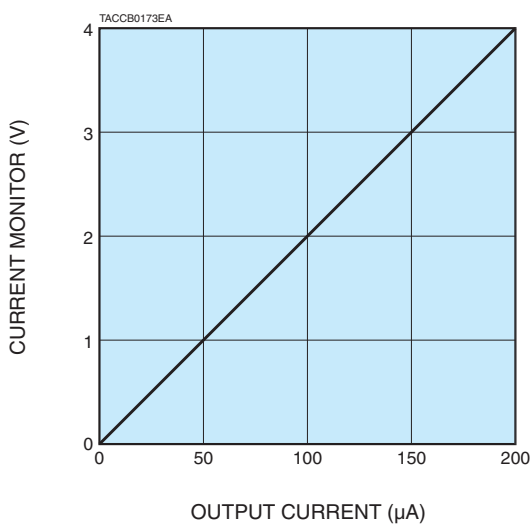


Figure 7: Monitor voltage vs. output current

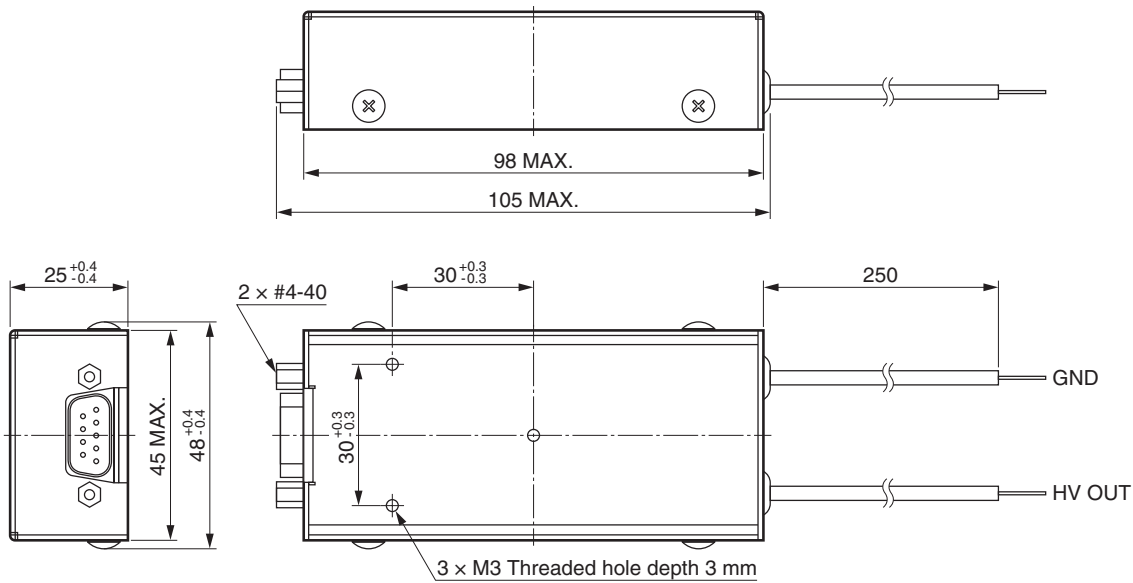


* These figures indicate nominal characteristics.

* Figure 6, 7 are common to C14051-15 and C14051-55.

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Figure 8: Dimensional outline (Unit: mm)



Black: GND (IRRAX, AWG16, Outer diameter 3.1 mm)

Red: HV OUT (CROSS-LINKED POLYETHYLENE, AWG22, Outer diameter 3.0 mm)

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MAR. 2020 IP