

The C14051-15 is a high voltage power supply module that can output up to -10 kV / 0.2 mA. It realizes miniaturization, high conversion efficiency and also has stabilization circuit, various protective functions, output monitor (voltage / current).



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

SPECIFICATIONS

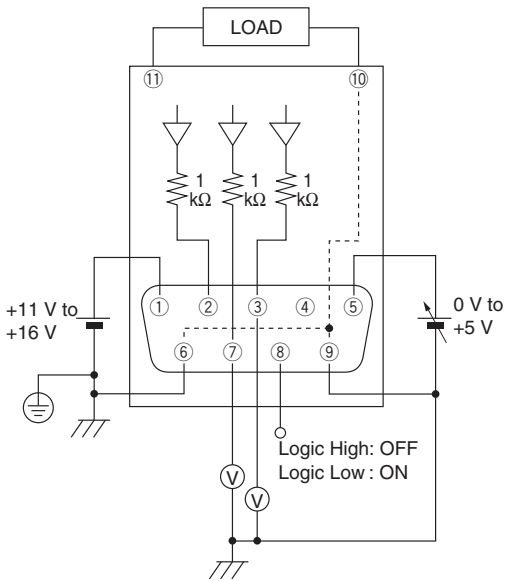
Parameter		Value	Unit
Input voltage range (V_{cc})		+11 to +16	V
Input current ^①	Typ.	260	mA
Output voltage control (V_{cont})		By external controlling voltage (0 V to +5 V) or external potentiometer (50 k Ω)	V
Controlling voltage input impedance		80	k Ω
Specification guaranteed output voltage range ^②		-2000 to -10000	V
Output accuracy ^③	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 ^{③④}	Typ.	± 0.01	%/ $^{\circ}$ C
Ripple / Noise (p-p) ^{③④}	Typ.	0.1	V
Output voltage rise time (0 \rightarrow 99 %) ^{③④}	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 ^{③④⑤}		-10 to +60	$^{\circ}$ C
Storage temperature ^⑤		-20 to +70	$^{\circ}$ C
Dimensional outline		W 98 \times D 45 \times H 25 ^⑥	mm
Weight		160	g
Protective functions		Installed input FUSE for over current ^⑦ / Reversed power input protection Over-temperature protection / Overvoltage protection for controlling voltage Output overload protection / Output overvoltage protection	—

NOTE: ① $V_{cc} = +12$ V, at maximum output current
 ② The voltage from 0 V to -2000 V can be output but all characteristics are not necessarily satisfied
 ③ At maximum output voltage ④ At maximum output current
 ⑤ At ambient humidity below 80 % (no condensation) ⑥ Excluding the projection and the cable ⑦ Not exchangeable

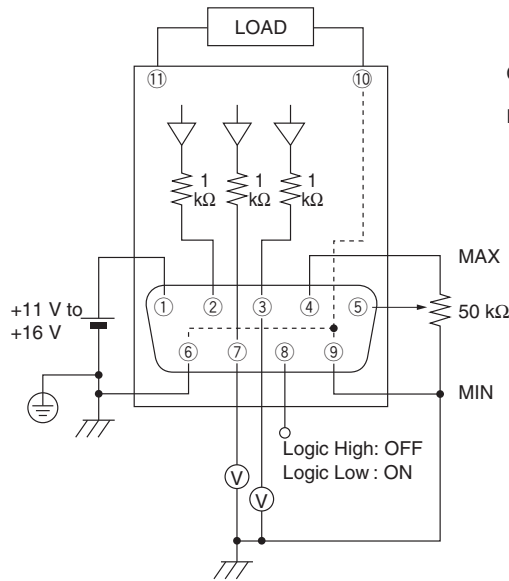
-10 kV OUTPUT HIGH VOLTAGE POWER SUPPLY C14051-15

Figure 1: Output voltage controlling

●BY EXTERNAL VOLTAGE



●BY EXTERNAL POTENTIOMETER



Connector: D-sub 9 pin

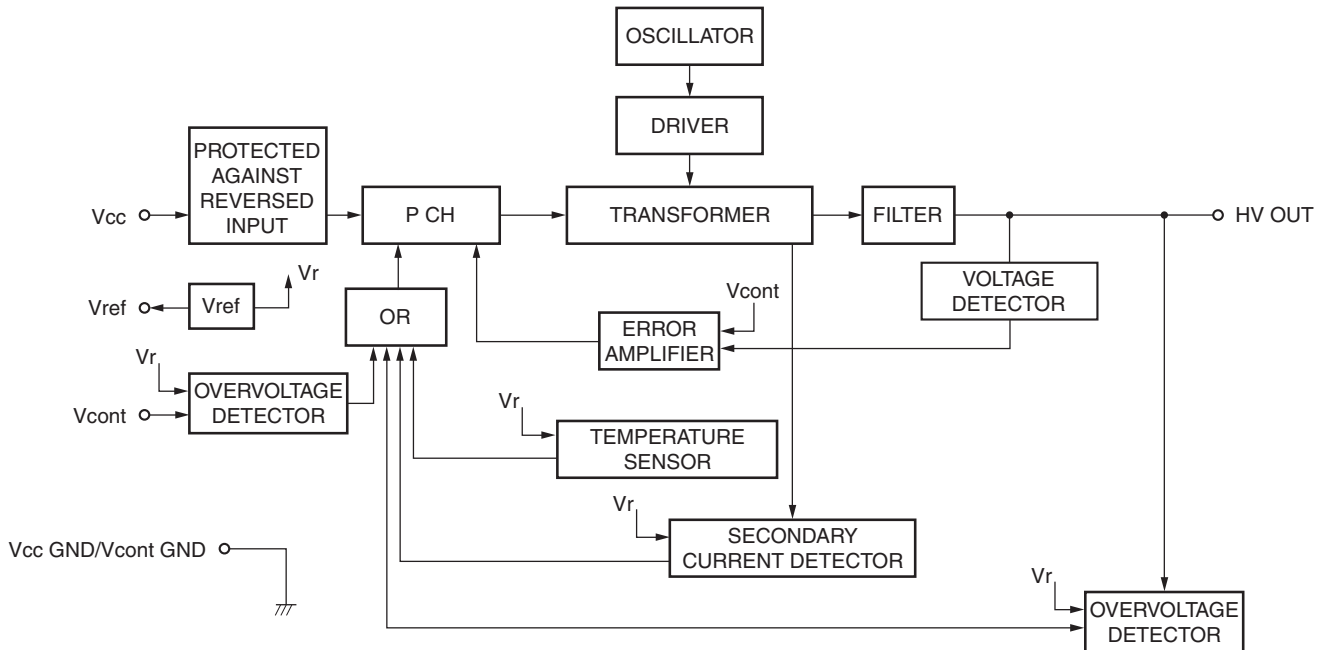
PIN ASSIGNMENT

- 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: Stability

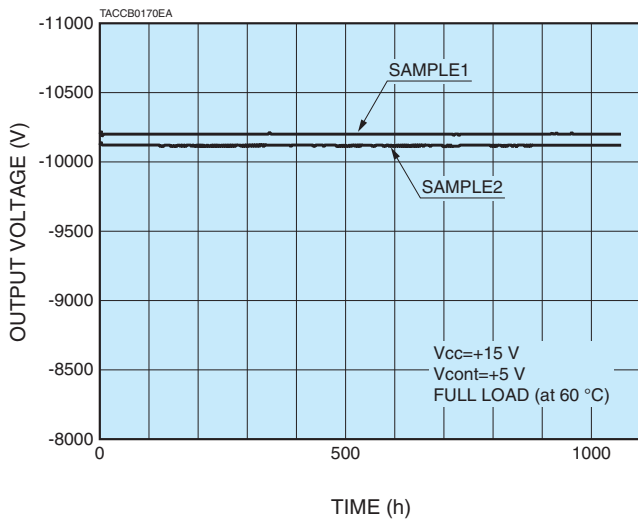


Figure 4: Ripple / Noise

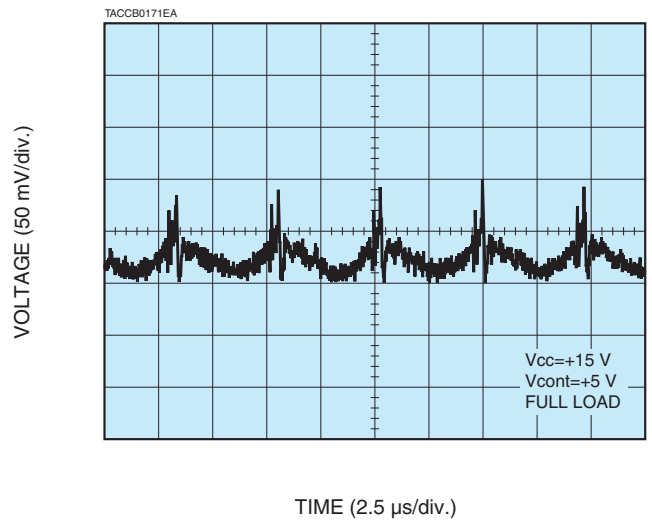


Figure 5: Monitor voltage vs. output voltage

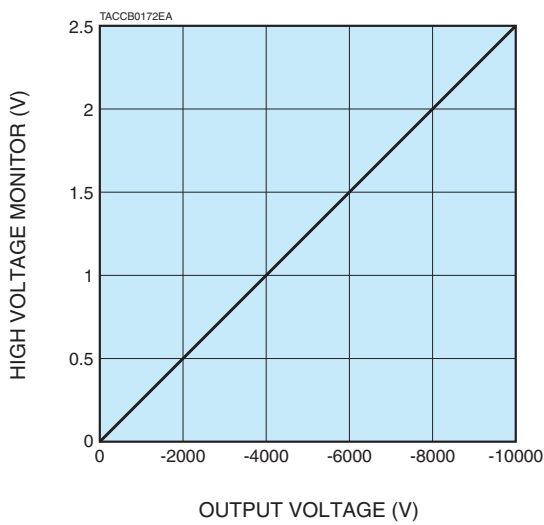
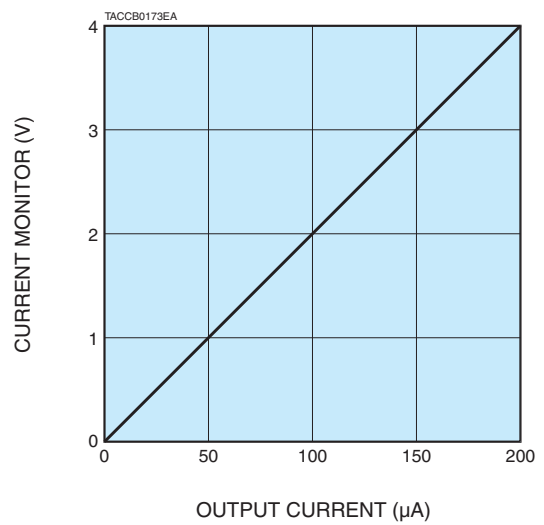


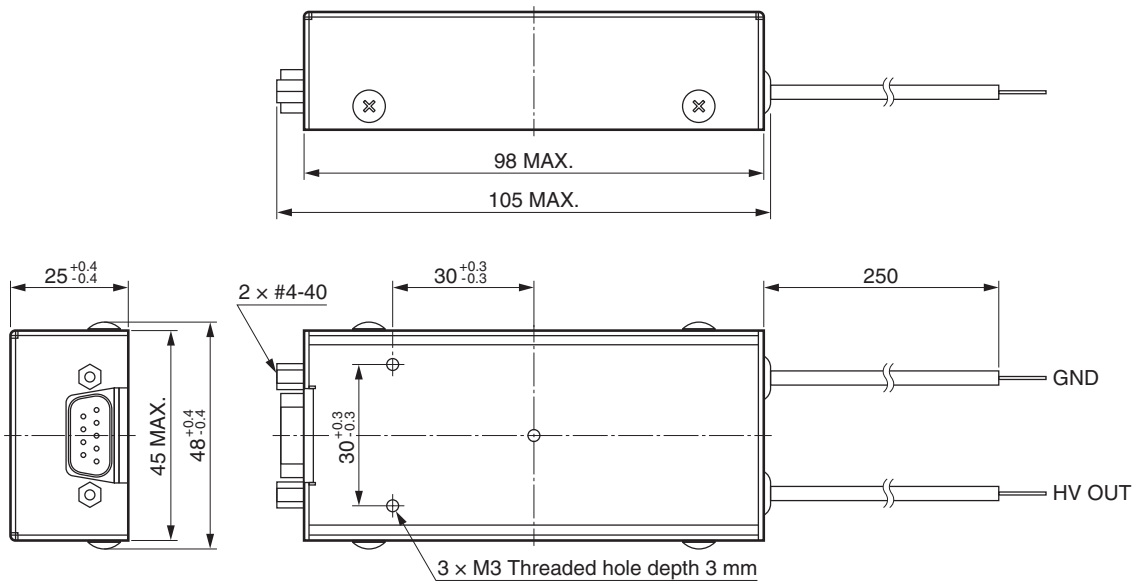
Figure 6: Monitor voltage vs. output current



* These figures indicate nominal characteristics.

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Figure 7: 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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