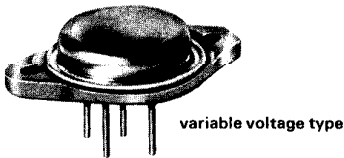


78 series regulators 5 Amp

continued



variable voltage type

A range of fixed and variable voltage regulators of hybrid construction housed in TO3 metal packages with an output current up to 5 A. The regulators feature full thermal overload, short circuit and safe operating area protection.

typical parameters

type	78H05	78H12	78HG
Input voltage range	8-25	15-25	8-40
Load regulation	10 mV	20 mV	1% V_{out}
Ripple rejection	60 dB	60 dB	60 dB
Output resistance	2 m Ω	2 m Ω	2 m Ω
Line regulation	10 mV	20 mV	0-15% V_{out}
Output noise voltage	40 μ V	75 μ V	50 μ V
Short-circuit current	7 A	7 A	7 A
Suitable transformer	207-289 sec. in series	207-302 sec. in parallel	Depends on V_{out} required

thermal characteristics

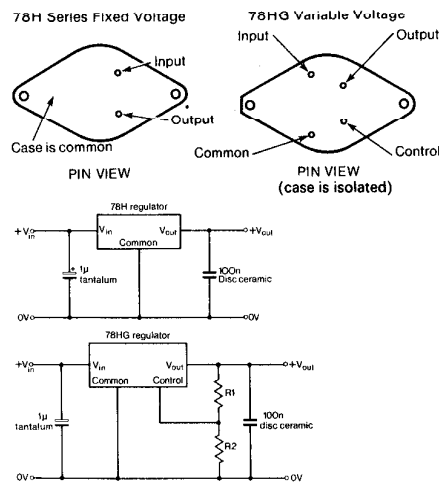
Operating junction temperature (max.) +150 °C (internally limited)

Total power dissipation ($T_{case}=25\text{ }^{\circ}\text{C}$) 50 W (internally limited), derate linearly to 0W at 150 °C
Thermal resistance (junction to case) 2 °C/W
Thermal resistance (junction to ambient) 33 °C/W

warning

To achieve the high power dissipation yet maintain the low thermal resistance of these devices, Beryllium Oxide, a toxic substance, is used internally. Therefore the devices should **not** be cut open.

pin connections



$$V_{out} = V_{control} \left(\frac{R_1 + R_2}{R_2} \right) \quad V_{control} = 5V$$

Data sheet 5049 November 83 available on request.

fixed voltage 78H

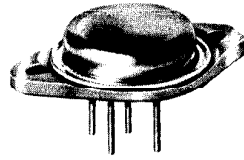
type	output voltage	stock no.	price each
78H05	+5 (± 0.2 V)	307-301	£5.85 £5.27
78H12	+12 (± 0.5 V)	307-317	£5.85 £5.27

Data sheet 5128 November 83 available on request.

variable voltage 78HG

type	output voltage	stock no.	price each
78HG	+5 to +24 V	307-339	£5.85 £5.27

79HG regulator



Similar in performance to the 7011G regulator, but offering a negative voltage control range of -2.25 to -24 V, with an output current up to 5 A.

typical parameters

Input voltage range	-40 to -7 V
Load regulation	0.7% V_{out}
Ripple rejection	50 dB
Line regulation	0.4% V_{out}
Output noise voltage	200 μ V
Short circuit current	-8 A
Suitable transformer depends on V_{out}	(for maximum current)

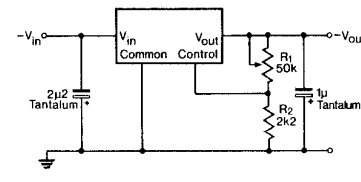
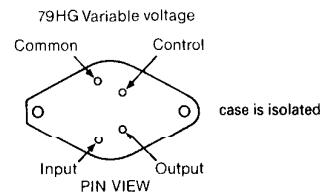
thermal characteristics

Operating junction temperature (max.) +150 °C (internally limited)

Total power dissipation ($T_{case}=25\text{ }^{\circ}\text{C}$) 50 W (internally limited), derate linearly to 0W at 150 °C
Thermal resistance (junction to case) 2 °C/W
Thermal resistance (junction to ambient) 33 °C/W

warning

To achieve the high power dissipation yet maintain the low thermal resistance of these devices, Beryllium Oxide, a toxic substance, is used internally. Therefore the devices should **not** be cut open.



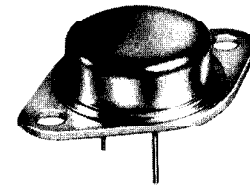
$$V_{out} = V_{control} \left(\frac{R_1 + R_2}{R_2} \right)$$

$$V_{control} = -2.23 V$$

Data sheet 5128 November 83 available on request.

type	output voltage	stock no.	price each
79HG	-2.25 to -24 V	307-878	£8.10 £7.29

regulators TO3 fixed voltage

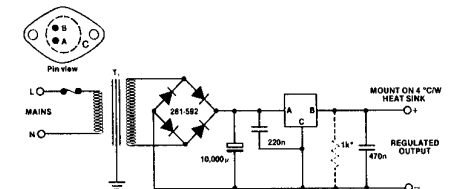


Monolithic voltage regulators intended for use as supplies for digital or linear integrated circuits. Internal fold-back overload and short-circuit protection. Case size TO3. Output voltage may be easily increased e.g. the 5 V types can provide 6 V or 9 V, etc.

typical parameters

	5 V types	12 V	15 V
output current, mA	1200	500	450
input voltage range, V	7-35	14.5-27	17.5-27
load regulation	1%	0.3%	0.3%
ripple rejection, dB	70	61*	56*
output resistance, m Ω	50	20	27
line regulation	0.1%	0.1%	0.16%
output noise voltage, mV (10 Hz-100 kHz)	0.04	0.15	0.19
short-circuit current, mA	dependent on V_{in}	100	85
suitable transformer	207-122 sec. in series	207-150 sec. in parallel	207-172 sec. in parallel

* A superimposed ripple of typically 10 mV pp at approximately 55 MHz may be present on the regulated output.



* 1 k Ω resistor required for LM309K only.

Data sheet 5049 November 83 available on request.

type	stock no.	price each
5 V (± 0.2 V)		
1.2 A (equivalent to LM309K)	305-614	£2.50 £2.25
12 V (+0.6 V)		
500 mA (equivalent to L036)	305-383	£1.37 £1.23
15 V (± 0.75 V)		
450 mA (equivalent to L037)	305-399	£1.37 £1.23

■ available until stocks are exhausted

For conditions of sale and servicing conditions see pages 456 and 457