

SANYO	No.918F	L78MG
Variable 4-Pin Voltage Regulator		

Applications

- General-purpose voltage regulator

Features

- Wide operating voltage range: 7.5 to 35V
- 500mA output
- On-chip thermal protector
- On-chip overcurrent limiter
- On-chip ASO protector
- 4-pin SEP package facilitating mounting and thermal design as in case of transistor
- Minimum number of external parts required
- Easy to vary voltage

Maximum Ratings at Ta=25°C

				unit
Maximum Supply Voltage	V _{CC} max	Pin 1	35	V
Allowable Power Dissipation	Pd max		1.2	W
Operating Temperature	T _{opr}		-20 to +80	°C
Storage Temperature	T _{stg}		-40 to +150	°C

Recommended Operating Conditions at Ta=25°C

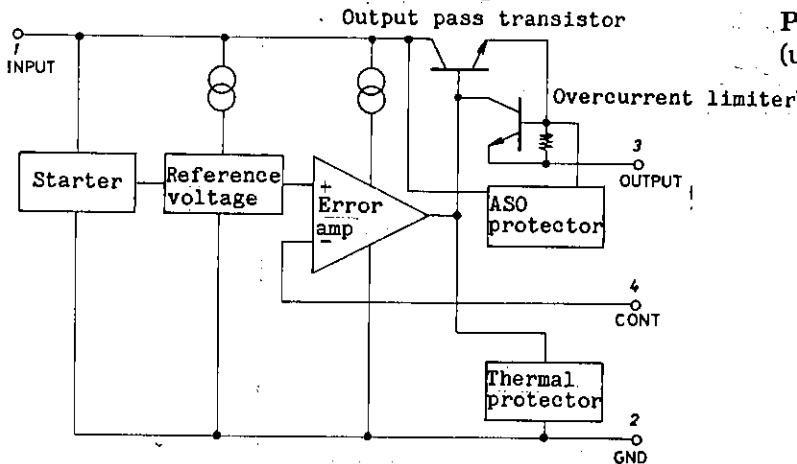
				unit
Input Voltage	V _{IN}	V _{OUT} +3 to V _{OUT} +15	V	
Output Current	I _{OUT}	500 or less	mA	

Operating Characteristics at Ta=25°C, V_{IN}=10V, I_{OUT}=350mA, C_{IN}=0.33µF, C_{OUT}=0.1µF

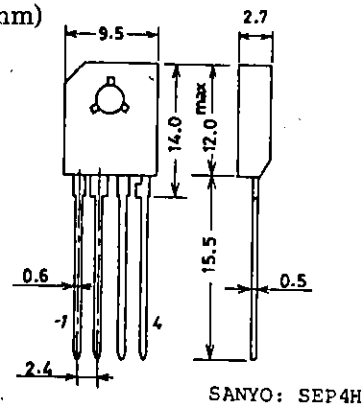
			min	typ	max	unit
Input Voltage	V _{IN}	T _j =25°C	7.5		35	V
Output Voltage	V _{OUT}	V _{IN} =V _{OUT} +5	5.0		30	V
Line Regulation (Referenced to output voltage)	ΔV _{oline}	T _j =25°C, I _{OUT} =200mA, V _{OUT} ≤10V (V _{OUT} +2.5V) ≤ V _{IN} ≤ (V _{OUT} +20V)	0.2	1.0		%
		T _j =25°C, I _{OUT} =200mA, V _{OUT} ≥10V (V _{OUT} +3V) ≤ V _{IN} ≤ (V _{OUT} +15V)	0.15	0.75		%
		(V _{OUT} +3V) ≤ V _{IN} ≤ (V _{OUT} +7V)	0.1	0.67		%

Continued on next page.

Equivalent Circuit Block Diagram



**Package Dimensions 3027A
(unit: mm)**

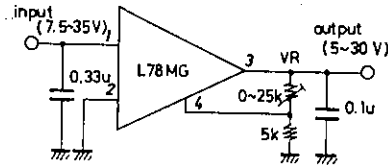


L78MG

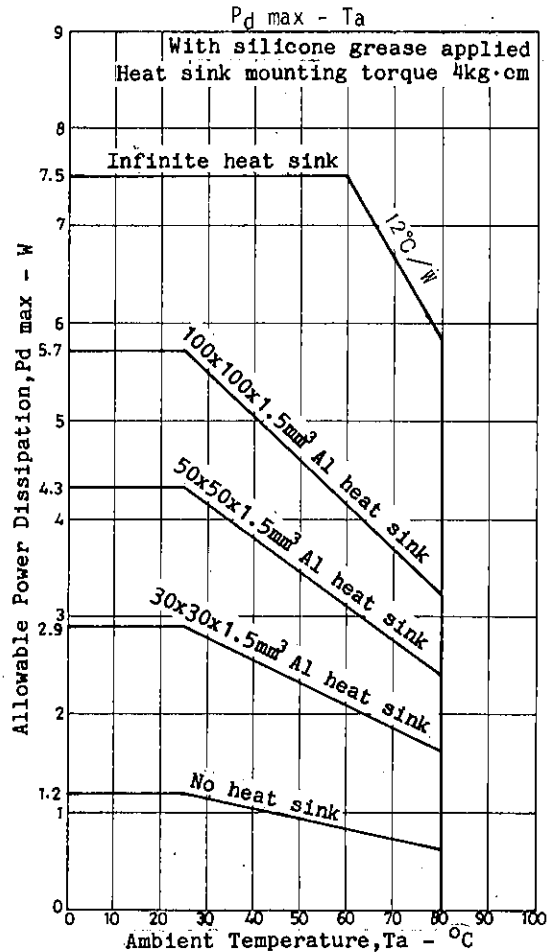
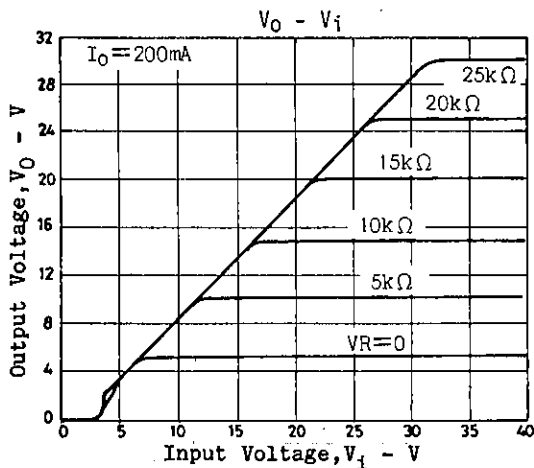
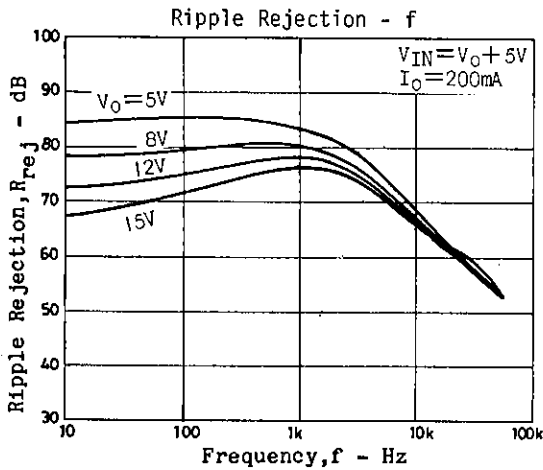
Continued from preceding page.

			min	typ	max	unit
Load Regulation (Referenced to output voltage)	$4V_{Oload}$	$T_j=25^\circ C, 5mA \leq I_{OUT} \leq 500mA,$ $V_{IN}=V_{OUT}+7V$		0.2	1.0	%
Control Pin Current		$T_j=25^\circ C$		1.0	5.0	μA
Current Dissipation	I_{CC}	$T_j=25^\circ C$		2.8	5.0	mA
Ripple Rejection	R_{rej}	$8V \leq V_{IN} \leq 18V, V_{OUT}=5V, f=120Hz$ $I_{OUT}=300mA, T_j=25^\circ C$	62	80		dB
		$8V \leq V_{IN} \leq 18V, V_{OUT}=5V, f=120Hz$ $I_{OUT}=100mA$	62			dB
Output Noise Voltage	V_{NO}	$10Hz \leq f \leq 100kHz, V_{OUT}=5V$		8	40	μV
Minimum Input-Output Voltage Drop	V_{drop}			2	2.5	V
Short Circuit Current	I_{OS}	$V_{IN}=35V, T_j=25^\circ C$		100	600	mA
Peak Output Current	I_{op}	$T_j=25^\circ C$	0.4	0.8	1.4	A
Reference Voltage		$T_j=25^\circ C$	4.8	5.0	5.2	V

Sample Application Circuit



Unit (resistance: Ω , capacitance: F)



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use;
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.