

No. 5162A

LA6517, 6517M, 6518M

SANYO

2-Output Power Operational Amplifier

Applications

The LA6517, LA6517M, and LA6518M are 2-output power operational amplifiers developed for use in consumer and industrial equipment.

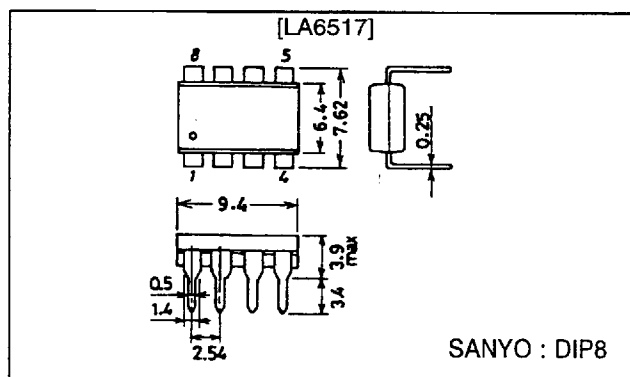
Features and Functions

- High output current ($I_O \text{ max} = 0.5 \text{ A}$).
- High gain.
- Includes a current limiter.
- Wide operating voltage range (± 2 to $\pm 18 \text{ V}$).
- Single-supply operation possible (4 to 36 V).
- Thermal shutdown built in.

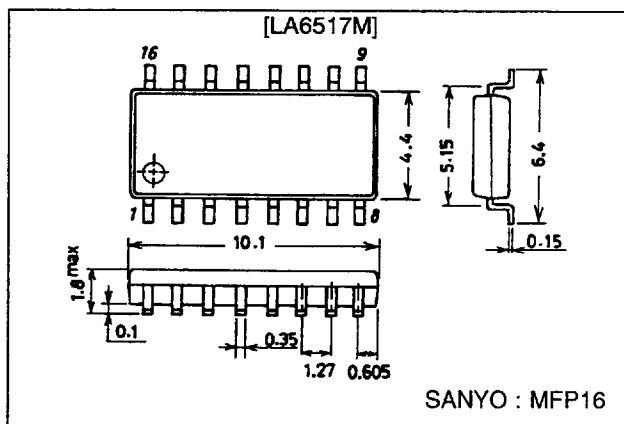
Package Dimensions

unit : mm

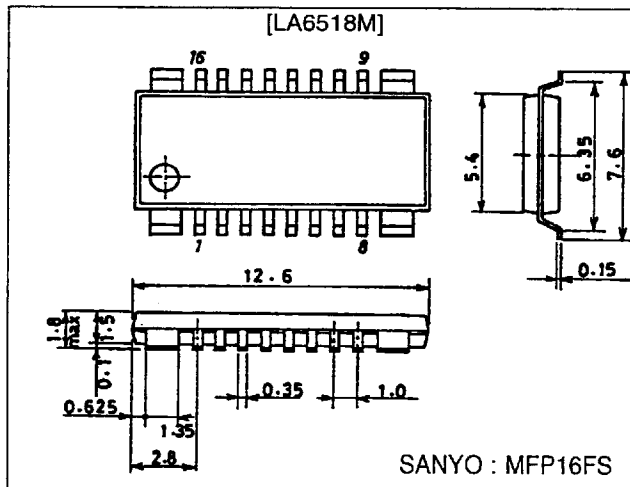
3001-DIP8



3035A-MFP16



3097-MFP16FS



SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

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Specifications

Maximum Ratings at Ta = 25 °C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		± 18	V
Differential input voltage	V_{ID}		30	V
Common-mode input voltage	V_{IN}		± 15	V
Allowable power dissipation	Pd max	LA6517	1000	mW
		LA6517M	350	mW
		LA6518M	700	mW
Operating temperature	Topr		-20 to +75	°C
Storage temperature	Tstg		-55 to +150	°C

Operating Conditions at Ta = 25 °C

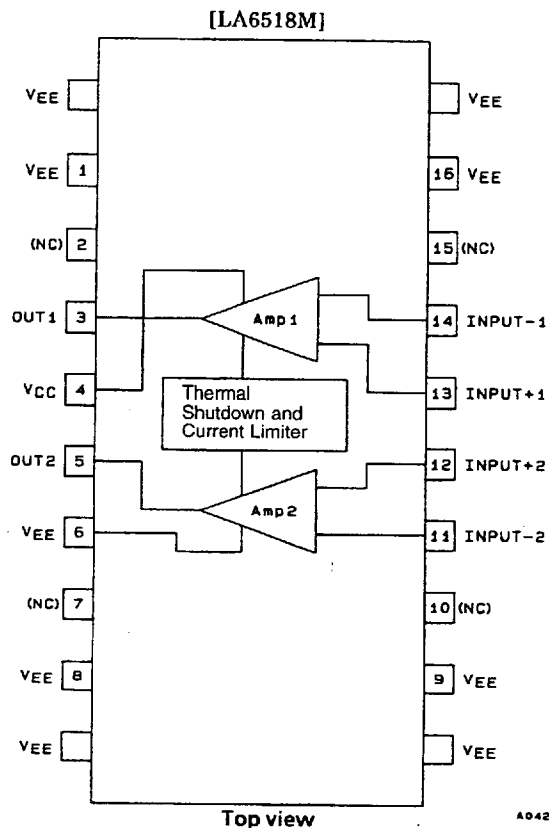
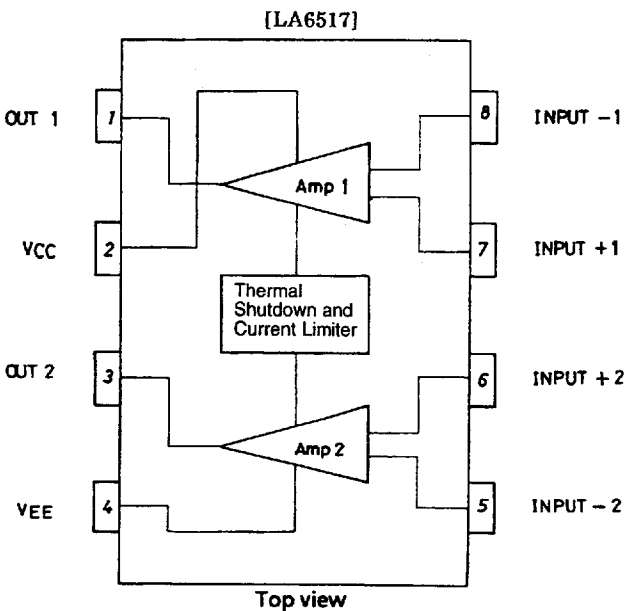
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}/V_{EE}		± 2 to ± 16	V

Electrical Characteristics at Ta = 25 °C, $V_{CC}/V_{EE} = \pm 15$ V

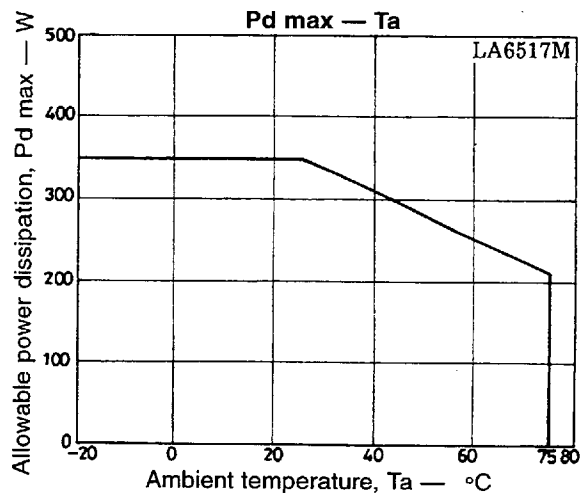
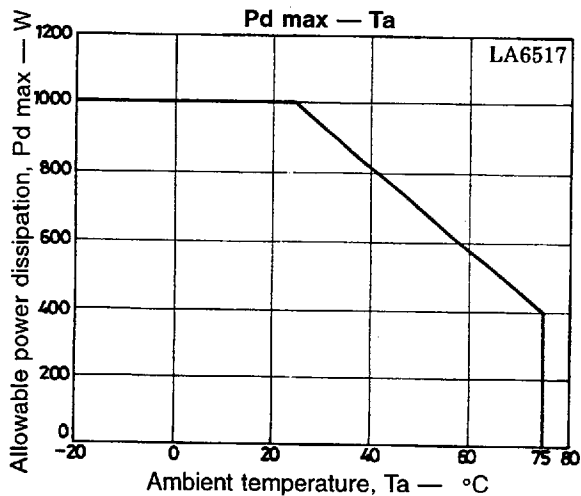
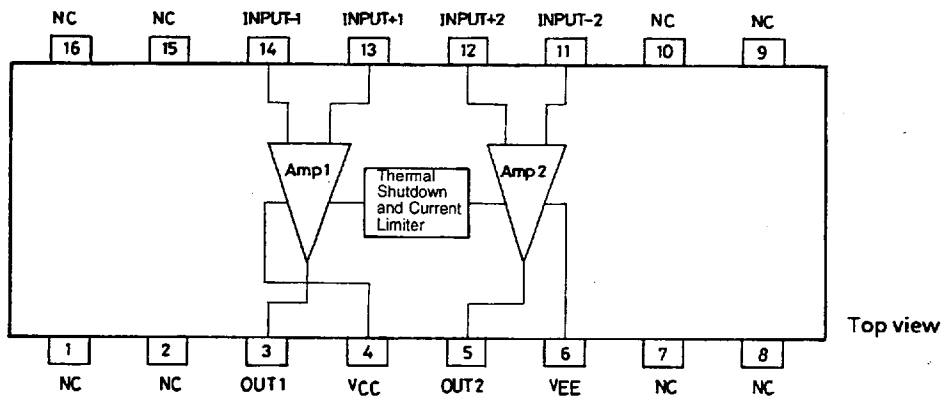
Parameter	Symbol	Conditions	min	typ	max	Unit
No-load current drain	I_{CC}			8	20	mA
Input offset voltage	V_{IO}	$R_S \leq 10\text{ k}\Omega$		2	7	mV
Input offset current	I_{IO}			10	100	nA
Input bias current	I_B			100	300	nA
Common-mode input voltage range	V_{ICM}	LA6517, 6517M	-15		+13	V
		LA6518M	-14		+13	V
Common-mode signal rejection ratio	CMRR		65	80		dB
Maximum output voltage	V_O	$R_L = 33\ \Omega$	± 11	± 12		V
Voltage gain	V_{G_O}			85		dB
Slew rate	SR	$G_V = 0, R_L = 33\ \Omega, R = 10\ \Omega, L = 0.1\ \mu\text{F}$		0.15		V/ μs
Supply voltage rejection ratio	SVR			30	300	$\mu\text{V/V}$
Limiting current (built in)	I_{SC}			0.5		A

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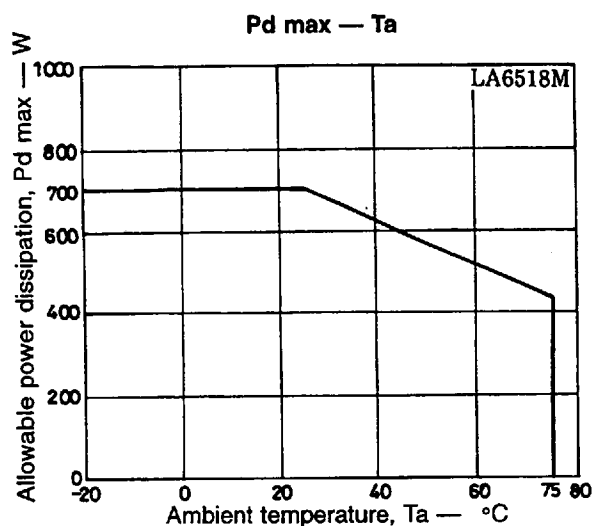
Block Diagram and Pin Assignments



[LA6517M]

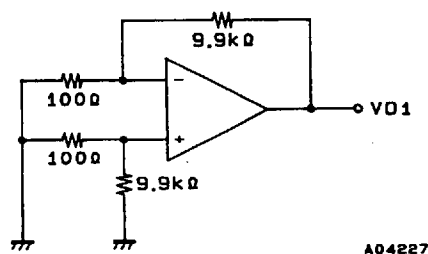


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Test Circuits

1. V_{IO} , SVRR



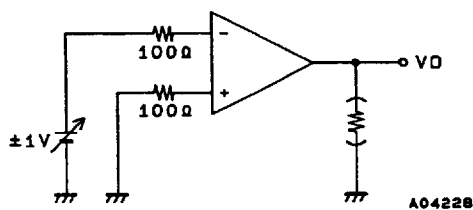
$$V_{IO}: V_{CC}/V_{EE} = \pm 15V$$

$$SVRR \left[\begin{array}{l} V_{CC} = 15V, 5V \\ V_{EE} = -5V, -15V \end{array} \right]$$

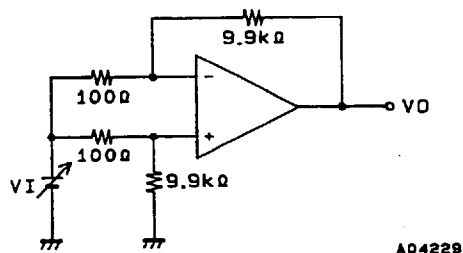
$$V_{IO} = V_{O1}/100$$

$$\frac{SVR(+)}{SVR(-)} = \left| \frac{\Delta V_{O1}}{100 \times 10V} \right|$$

2. V_O



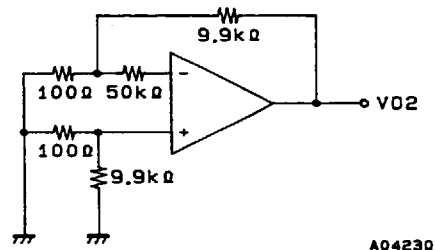
3. CMRR, V_{ICM}



$$CMRR: V_I = \pm 7.5V$$

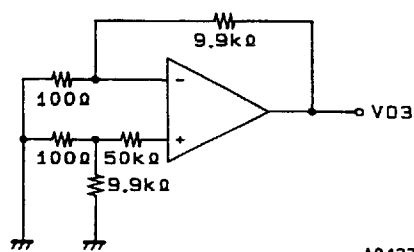
$$CMR = 20 \log \frac{15 \times 100}{|\Delta V_O|}$$

4. $I_B(-)$



$$I_B(-) = \frac{|V_{O2} - V_{O1}|}{50k\Omega \times 100}$$

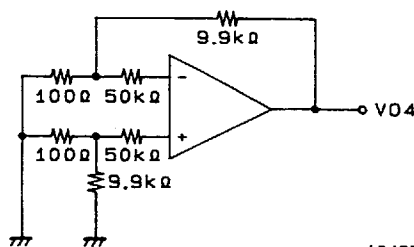
5. $I_B (+)$



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$$I_B (+) = \frac{|V_{03} - V_{01}|}{50k\Omega \times 100}$$

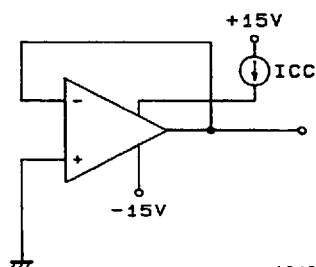
6. I_{IO}



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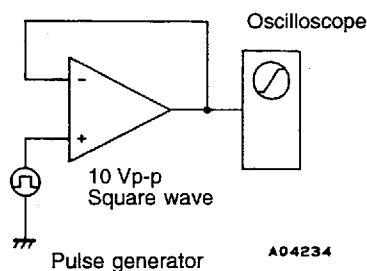
$$I_{IO} = \frac{|V_{04} - V_{01}|}{50k\Omega \times 100}$$

7. I_{CC}



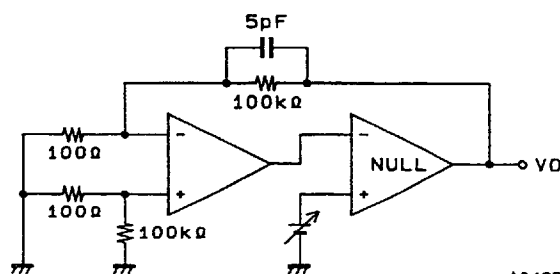
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8. SR



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9. V_{GO}



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$$V_{GO} = 20 \log \frac{1000 \times 20}{\Delta V_O}$$

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