



SANYO Semiconductors

DATA SHEET

LA6520 — Monolithic Linear IC 3-Output Power Operational Amplifier

Overview

The LA6520 is a 3-output power OP amp designed for use in consumer, industrial applications.

Features

- High output current ($I_o = 0.5\text{ A}$)
- High gain
- With current limiter
- Wide operating voltage range (± 2 to $\pm 18\text{ V}$)
- Capable of being operated from single supply (4 to 36V)
- On-chip thermal shutdown

Specification

Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		± 18	V
Differential input voltage	V_{IDIF}		30	V
Common-mode input voltage	V_{ICOM}		± 15	V
Allowable power dissipation	$P_{d\max}$		1.9	W
Operating temperature	T_{opr}		-20 to $+75$	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to $+150$	$^\circ\text{C}$

Operating Conditions at $T_a = 25^\circ\text{C}$

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

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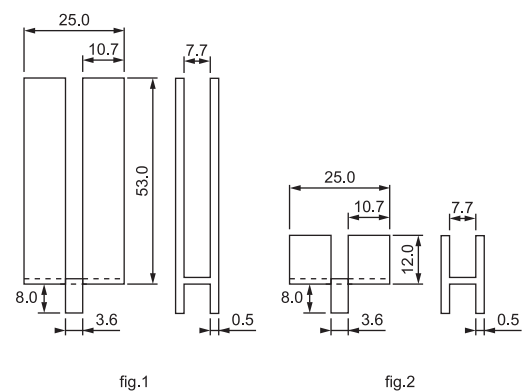
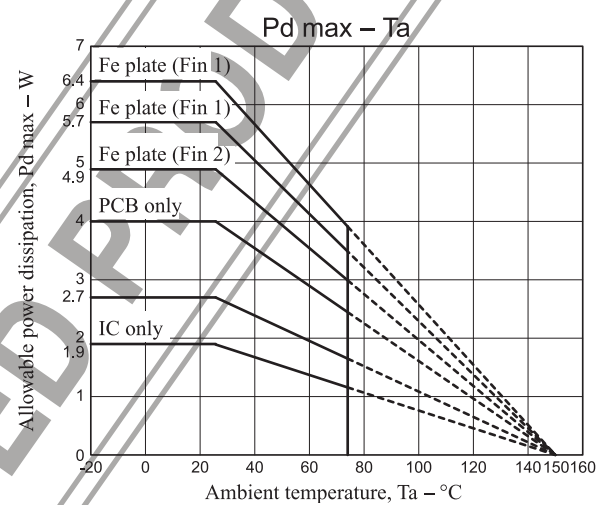
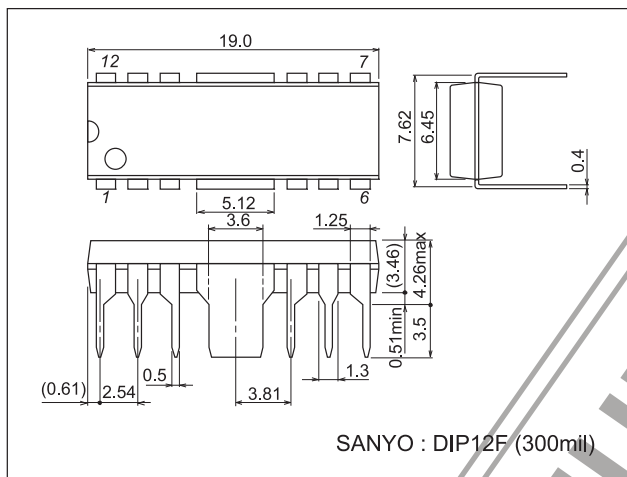
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC}/V_{EE} = \pm 15\text{V}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current dissipation	I_{CCO}			20		mA
Input offset voltage	V_{IO}	$R_s \leq 10\text{k}\Omega$		2		mV
Input offset current	I_{IO}			10		nA
Input bias current	I_B			50		nA
Common-mode input voltage range	V_{ICM}		-15		+13	V
Common-mode rejection	CMR			80		dB
Maximum output voltage	V_o	$R_L = 33\Omega$		± 12		V
Voltage gain	V_{GO}			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	SVR			30		$\mu\text{V/V}$
Limiting current (On-chip limiter)	I_{SC}			0.5		A

Package Dimensions

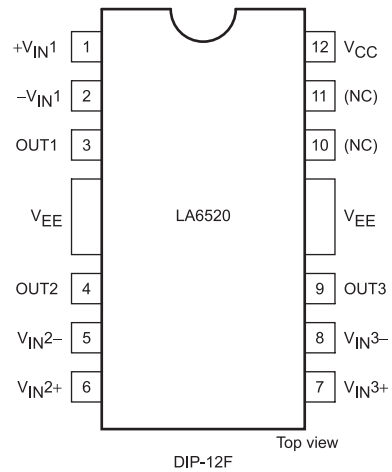
unit : mm (typ)

3022B



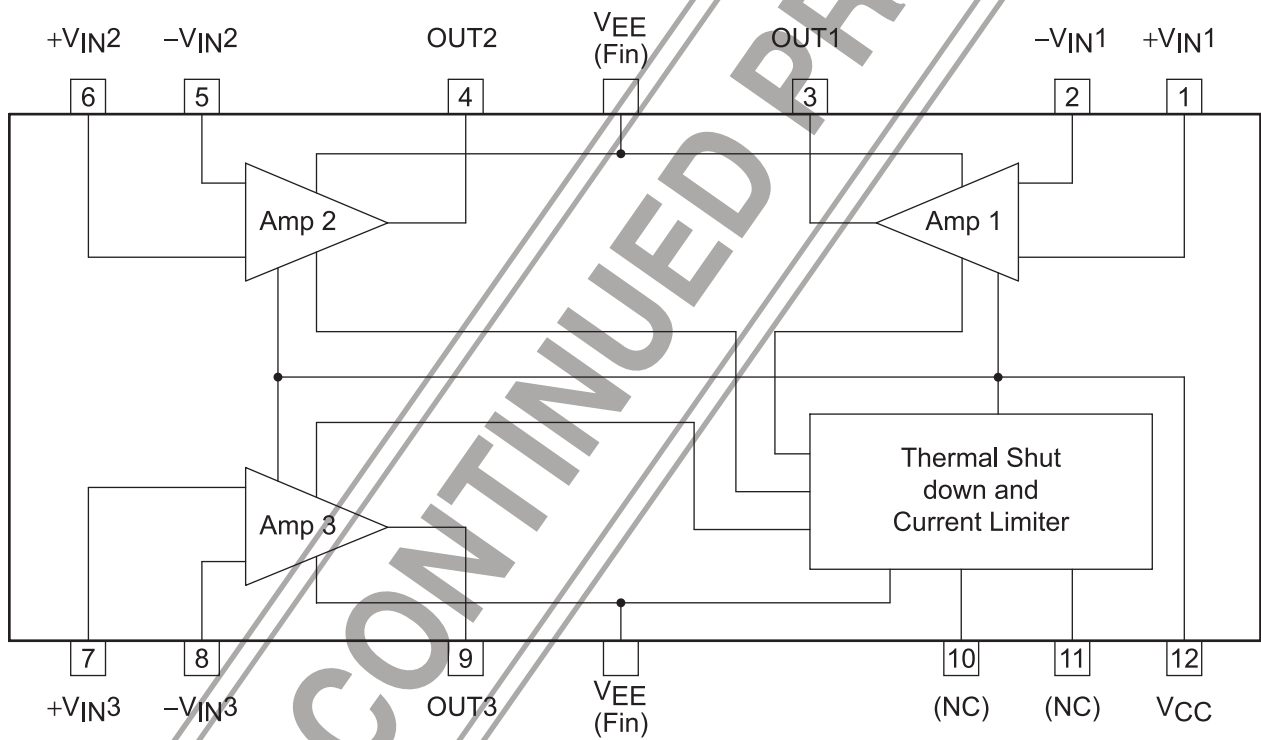
(Unit : mm)

Pin Assignment



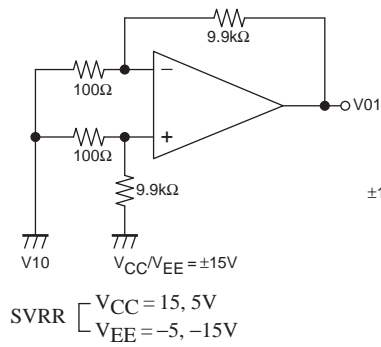
The No. 10 and 11 pins (NC pins) are not connected to the internal IC so do not use them.

Block Diagram

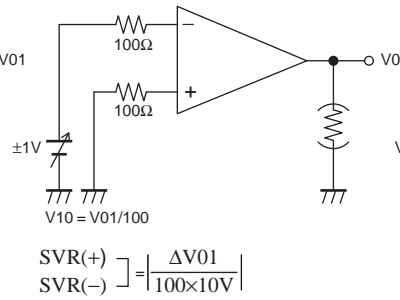


Test Circuits

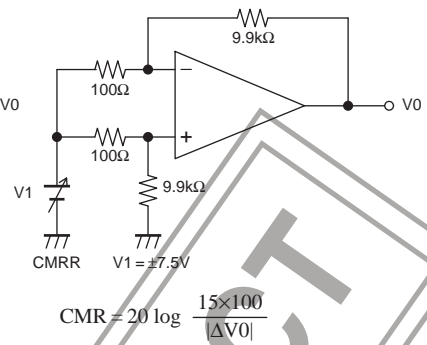
① V10, SVRR



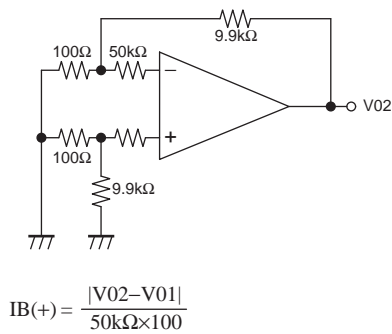
② V0



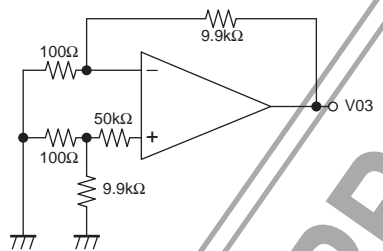
③ CMRR, VICM



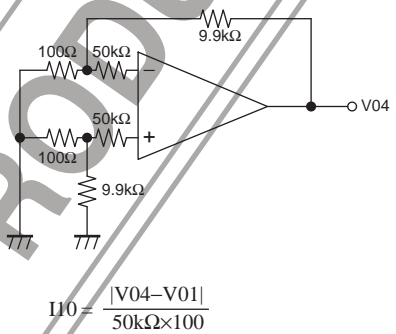
④ IB(+)



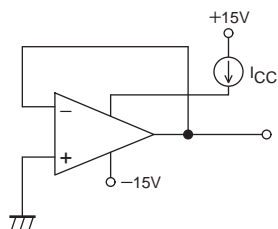
⑤ IB(-)



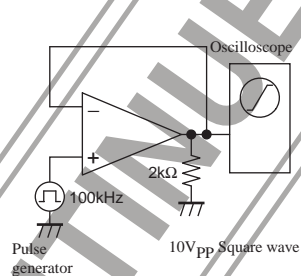
⑥ I10



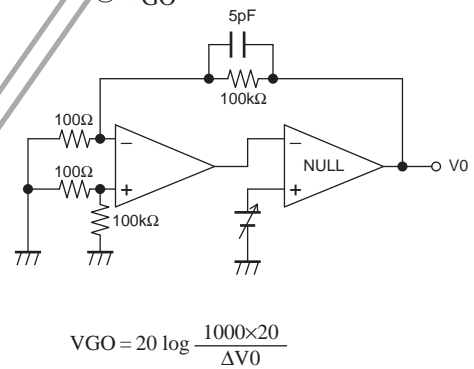
⑦ ICC

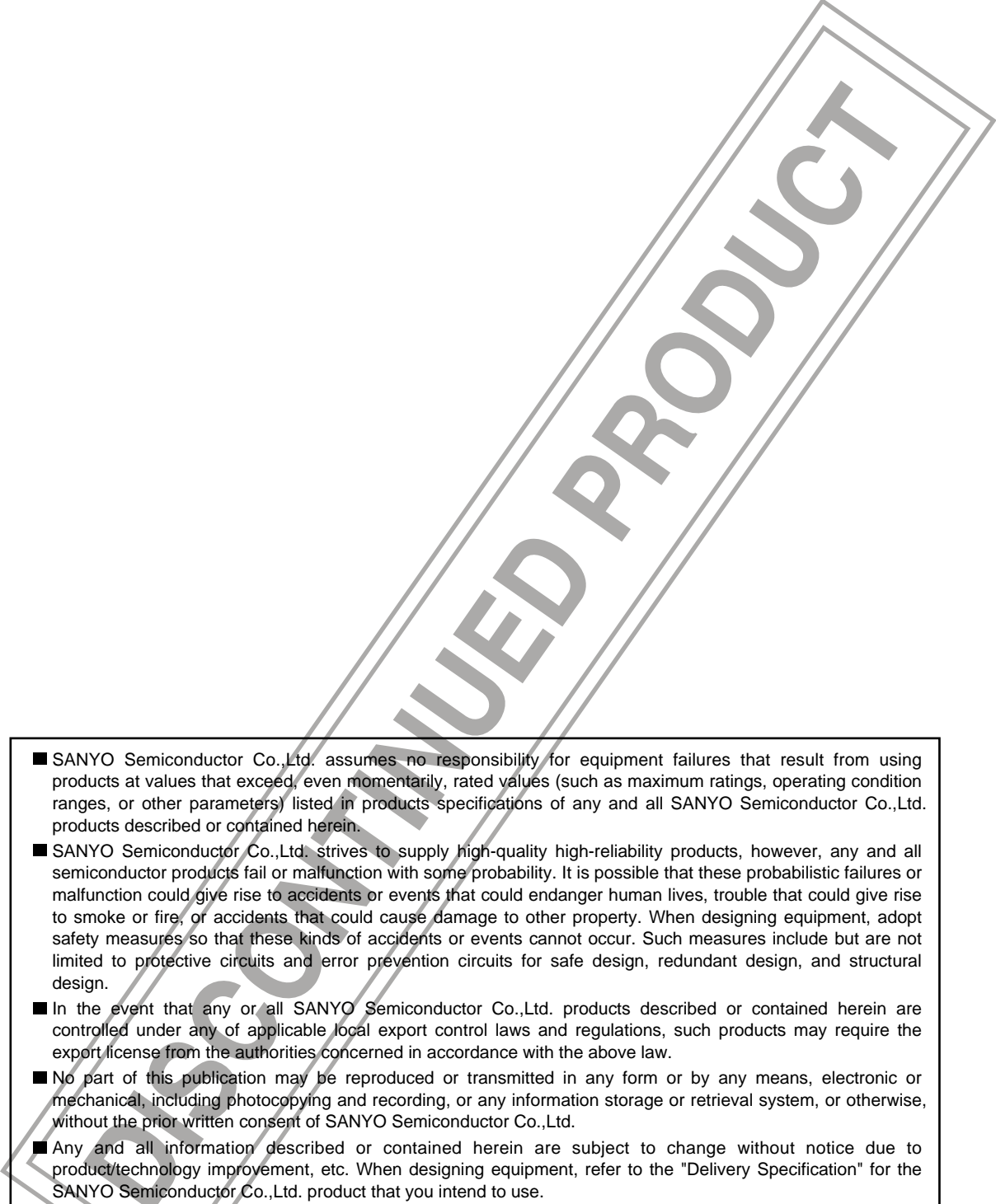


⑧ SR



⑨ VGO



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