

PRELIMINARY

M62540ML

HIGH PRECISION 2CH(3.3V, 2.5V) REGULATOR IC

DESCRIPTION

M62540ML is a monolithic integrated circuit integrating 2ch regulator designed for OA equipment use such as HDD.

This device has two regulators with high precision output voltage, high current capability, and high ripple rejection ratio.

Compact application design is made easy by 5pin small package.

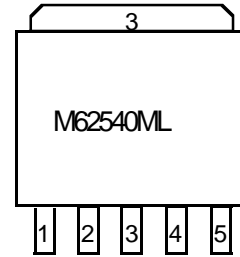
FEATURES

- * High precision output voltage: $3.3V \pm 2\%$ (CH1), $2.5V \pm 2\%$ (CH2)
- * High output current: 1A(max.)
- * High ripple rejection ratio: 65dB(typ.)
- * Small short circuit current by drooping fold-back protection circuit :200mA(typ.)

APPLICATION

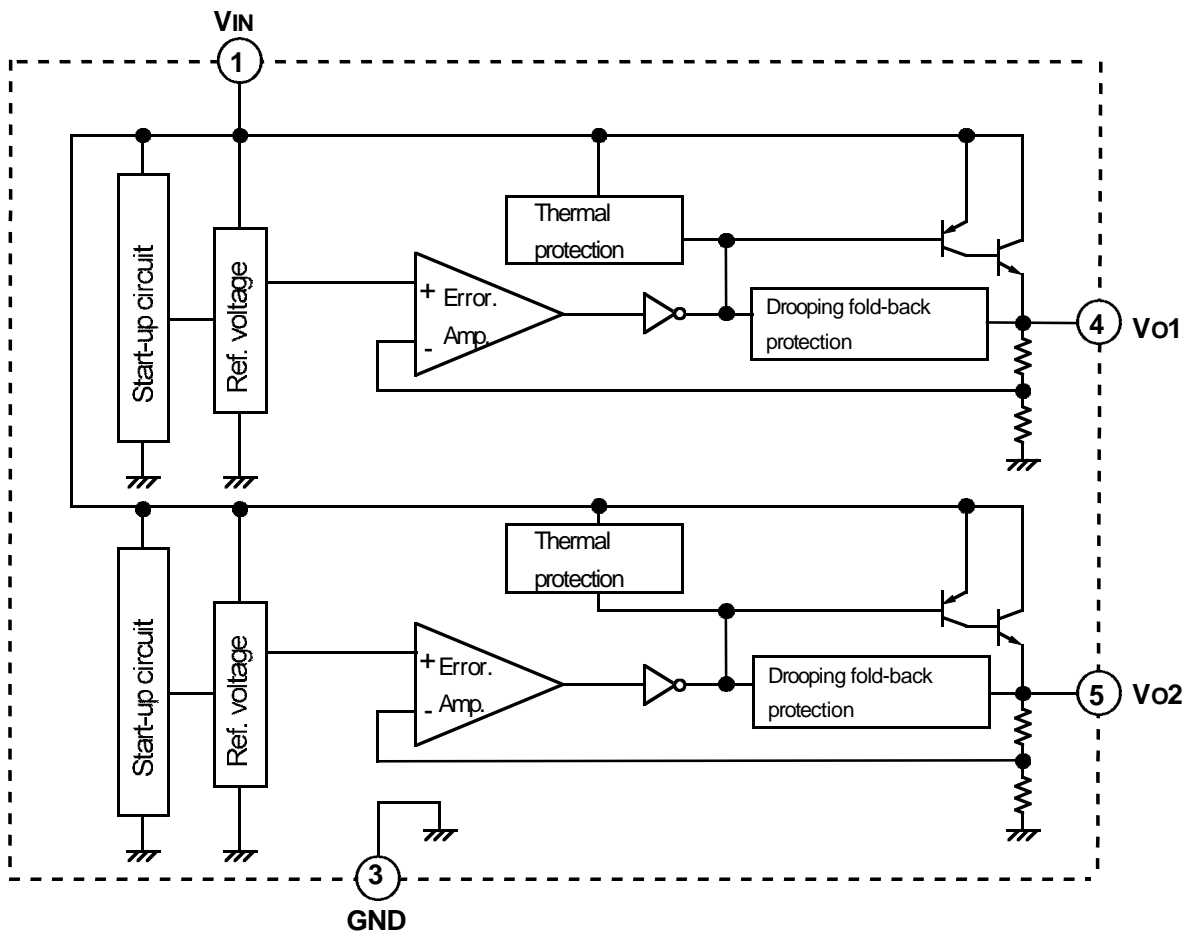
OA equipments such as HDD, and so forth

PIN CONFIGURATION (TOP VIEW)



- 1 : VIN
- 2 : NC
- 3 : GND
- 4 : Vo1
- 5 : Vo2

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS(Ta=25°C,unless otherwise noted.)

Symbol	Parameter	Condition	Ratings	Unit
V _{IN}	Input voltage		16	V
I _o	Load current *1		1	A
P _d	Power dissipation	Heat sink Non-Soldered to PCB	2	W
		Heat sink Soldered to PCB	5	
Th _{ja}	Thermal resistance (between junction to air)	Heat sink Soldered to PCB	25	°C/W
T _{opr}	Operating temperature		-20 to +85	°C
T _j	Junction temperature		+150	°C
T _{stg}	Storage temperature		-55 to +150	°C

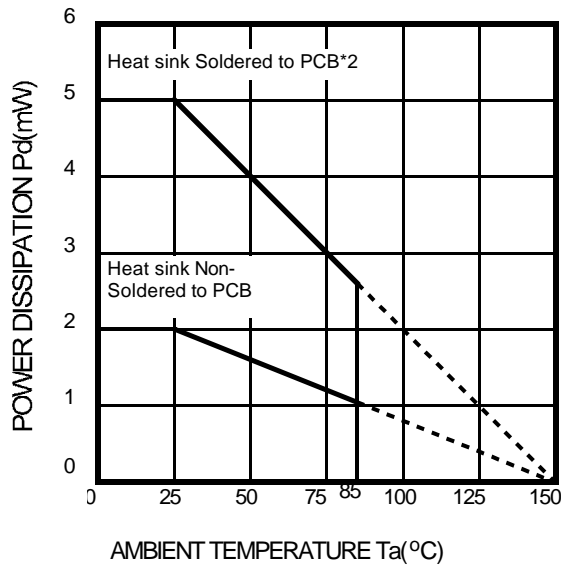
*1:Load current available for each channel(Vo1,Vo2)

ELECTRICAL CHARACTERISTICS(Ta=25°C,VIN=5V,CI=10μF,Co1=Co2=10μF, unless otherwise noted.)

BLOCK	Symbol	Parameter	Test conditions	Limits			Unit
				Min.	Typ.	Max.	
All device	V _{IN}	Supply voltage range		4.6		15.0	V
	I _{CC}	Circuit current	I _{O1} =0mA,I _{O2} =0mA		4.5	7.2	mA
Regulator Vo1	V _{OUT1}	Output voltage 1	I _{O1} =50mA	3.234	3.3	3.366	V
	I _{OP1}	Output peak current 1		1.0			A
	V _{IO1}	Input/output differential 1	I _{O1} =500mA		1.1	1.3	V
	Reg-IN1	Input regulation 1	V _{IN} =4.6V to 15V,I _{O1} =10mA		10		mV
	Reg-LO1	Load regulation 1	I _{O1} =10mA to 1A		20		mV
	V _{NO1}	Output noise voltage 1	BW=10Hz to 100KHz		0.003		%
	RR1	Ripple rejection ratio 1	vin=-17.8dBm,f=120Hz		65		dB
	I _{OS1}	Output short holding current 1	V _{O1} =0V		200		mA
	TCV _{O1}	Output voltage temp.coefficient 1	Ta=-20 to 85°C,I _{O1} =500mA		0.5		%
Regulator Vo2	V _{OUT2}	Output voltage 2	I _{O2} =50mA	2.450	2.5	2.550	V
	I _{OP2}	Output peak current 2		1.0			A
	V _{IO2}	Input/output differential 2	I _{O2} =500mA		1.1	1.3	V
	Reg-IN2	Input regulation 2	V _{IN} =4.6V to 15V,I _{O2} =10mA		10		mV
	Reg-LO2	Load regulation 2	I _{O2} =10mA to 1A		20		mV
	V _{NO2}	Output noise voltage 2	BW=10Hz to 100KHz		0.003		%
	RR2	Ripple rejection ratio 2	vin=-17.8dBm,f=120Hz		65		dB
	I _{OS2}	Output short holding current 2	V _{O2} =0V		200		mA
	TCV _{O2}	Output voltage temp.coefficient 2	Ta=-20 to 85°C,I _{O2} =500mA		0.5		%

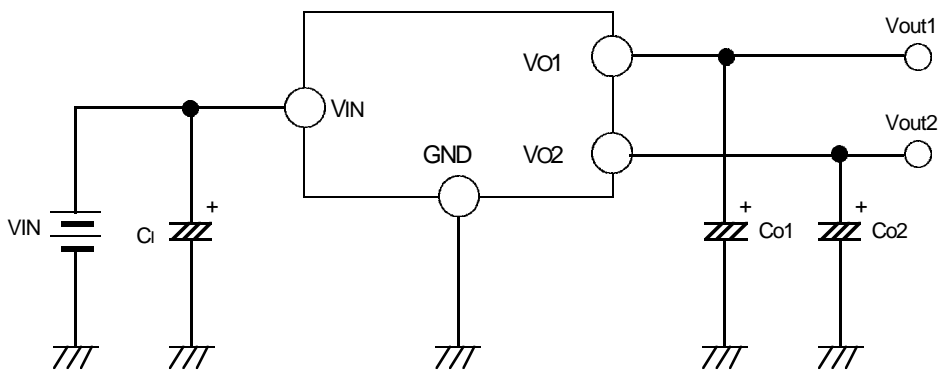
TYPICAL CHARACTERISTICS

THERMAL DERATING(MAXIMUM RATINGS)

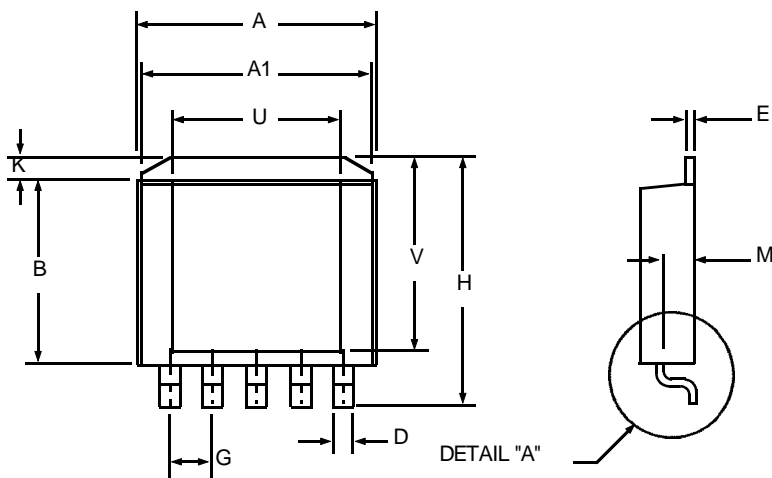


*2: The maximum ratings in state soldered with a 2 square inch area on the PCB.

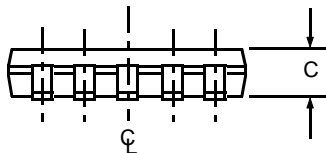
STANDARD CONNECTION



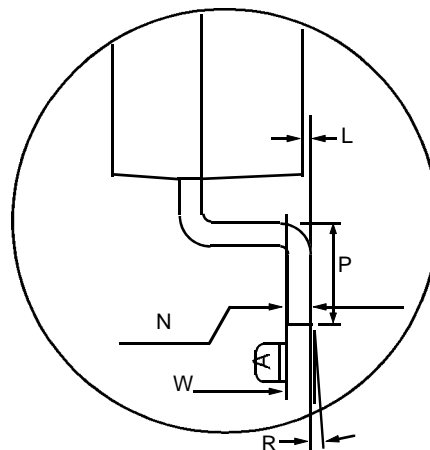
PACKAGE OUTLINE



POS	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.365	0.375	9.27	9.52
A1	0.350	0.360	8.89	9.14
B	0.310	0.320	7.87	8.13
C	0.070	0.080	1.78	2.03
D	0.025	0.031	0.63	0.79
E	0.010 BSC		0.25 BSC	
G	0.067 BSC		1.70 BSC	
H	0.410	0.420	10.41	10.67
K	0.030	0.050	0.76	1.27
L	0.001	0.005	0.03	0.13
M	0.035	0.045	0.89	1.14
N	0.010 BSC		0.25 BSC	
P	0.031	0.041	0.79	1.04
R	0°	6°	0°	6°
U	0.256 BSC		6.50 BSC	
V	0.316 BSC		8.03 BSC	
W	0.010 BSC		0.25 BSC	



DETAIL "A"



SCALE 20:1

- NOTE:
- 1, PACKAGE OUTLINE EXCLUSIVE OF MOLD FLASH & METAL BURR
 - 2, PACKAGE OUTLINE INCLUSIVE OF PLATING THICKNESS
 - 3, FOOT LENGTH MEASURED AT INTERCEPT POINT BETWEEN DATUM A & LEAD SURFACE