

No.1595B

# LA5655

VOLTAGE REGULATOR FOR  
FLT DISPLAY DESK-TOP CALCULATOR

The LA5655 is an IC containing all the voltage regulators required for an FLT display desk-top calculator with a printer.

**Features and Functions**

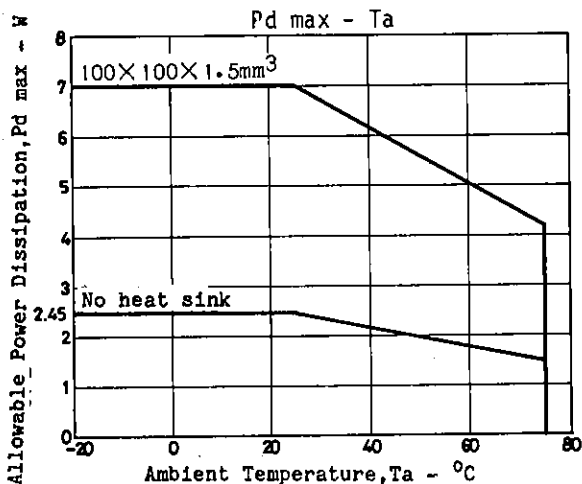
- a. On-chip voltage regulators required for desk-top calculator (FLT display) with a printer.
  1. Printer voltage regulator.
  2. LSI voltage regulator.
  3. FLT anode, grid voltage regulator.
  4. FLT heater grid voltage regulator.
  5. FLT bias grid voltage regulator.
- b. On-chip printer motor brake circuit

**Maximum Ratings at Ta=25°C**

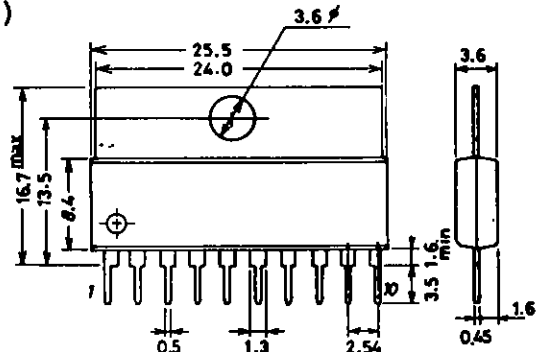
			unit
Voltage Regulator Input Voltage 1	$V_{IN1}$	50	V
Voltage Regulator Input Voltage 2	$V_{IN2}$	25	V
Output Current 1	$I_{OUT1}$	40	mA
Output Current 2	$I_{OUT2}$	2.0	A
Output Current 3	$I_{OUTX}$ (X=3,4,5) other regulator	40	mA
Allowable Power Dissipation	$P_{dmax}$ IC alone	2.45	W
Operating Temperature	$T_{opr}$	-20 to +75	°C
Storage Temperature	$T_{stg}$	-40 to +125	°C

**Operating Conditions at Ta=25°C**

			unit
Voltage Regulator Input Voltage Range	$V_{IN1}$	+20 to +50	V
MT Pin H Voltage	$V_{ENAH}$	2.0 to 7.0	V
MT Pin L Voltage	$V_{ENAL}$	-0.3 to +0.3	V



**Package Dimensions 3046A-S10FIC**  
(unit: mm)



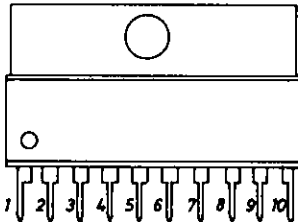
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Operating Characteristics at Ta=25°C

V<sub>IN1</sub>=35V, V<sub>IN2</sub>=10V, I<sub>OUT2</sub>=200mA

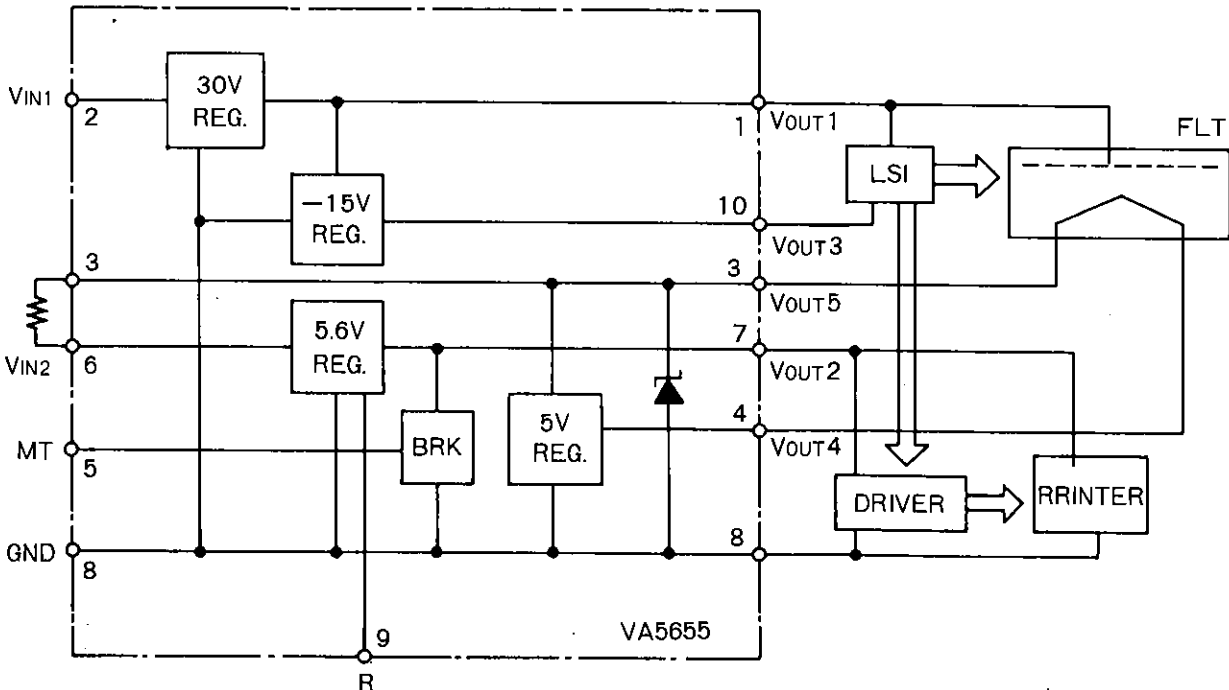
			min	typ	max	unit
Output Voltage 1	V <sub>OUT1</sub>	①→⑧ I <sub>OUT1</sub> =30mA	28.5	30	32.5	V
Output Voltage 2	V <sub>OUT2</sub>	⑦→⑧	5.3	5.6	6.0	V
Output Voltage 3	V <sub>OUT3</sub>	①→⑩ I <sub>OUT3</sub> =-12mA	13.8	15	16.2	V
Output Voltage 4	V <sub>OUT4</sub>	③→④ I <sub>OUT4</sub> =-30mA	4.6	5	5.4	V
Output Voltage 5	V <sub>OUT5</sub>	③→⑧ I <sub>IN5</sub> =30mA	7.3	8	8.7	V
Load Regulation 1	ΔV <sub>O1LOAD</sub>	10mA<I <sub>OUT1</sub> <30mA			250	mA
Load Regulation 2	ΔV <sub>O2LOAD</sub>	100mA<I <sub>OUT2</sub> <2A			250	mA
Load Regulation 3	ΔV <sub>O3LOAD</sub>	-20mA<I <sub>OUT3</sub> <-5mA			100	mA
Load Regulation 4	ΔV <sub>O4LOAD</sub>	-40mA<I <sub>OUT4</sub> <-10mA			100	mA
Load Regulation 5	ΔV <sub>O5LOAD</sub>	20mA<I <sub>IN5</sub> <40mA			200	mA
Line Regulation 1	ΔV <sub>O1LINE</sub>	33V<V <sub>IN1</sub> <45V			250	mA
Line Regulation 2	ΔV <sub>O2LINE</sub>	7.5V<V <sub>IN2</sub> <20V			100	mA
Line Regulation 3	ΔV <sub>O3LINE</sub>	33V<V <sub>IN1</sub> <45V			100	mA
Line Regulation 4	ΔV <sub>O4LINE</sub>	6.5V<V <sub>IN5</sub> <8V			100	mA
Quiescent Current 1	I <sub>CC1</sub>			6.5	9.0	mA
Quiescent Current 2	I <sub>CC2</sub>			8.5	12.0	mA
Input-Output Voltage Drop	V <sub>D1</sub>	V <sub>OUT1</sub> ΔV <sub>O1</sub> =10%, I <sub>OUT1</sub> =35mA			1.3	V
	V <sub>D2-1</sub>	V <sub>OUT2</sub> ΔV <sub>O2</sub> =10%, I <sub>OUT2</sub> =1A			1.4	V
	V <sub>D2-2</sub>	V <sub>OUT2</sub> ΔV <sub>O2</sub> =10%, I <sub>OUT2</sub> =2A			1.9	V
Saturation Voltage at V <sub>OUT2</sub> OFF Mode	V <sub>O2 OFF(sat)</sub>	I <sub>OUT2</sub> =-1A			1.4	V

Pin Assignment



Pin No.	Pin Name	Pin No.	Pin Name
1	V <sub>OUT1</sub>	6	V <sub>IN2</sub>
2	V <sub>IN1</sub>	7	V <sub>OUT2</sub>
3	V <sub>OUT5</sub>	8	GND
4	V <sub>OUT4</sub>	9	R
5	MT	10	V <sub>OUT3</sub>

Block Diagram and Sample Application Circuit



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