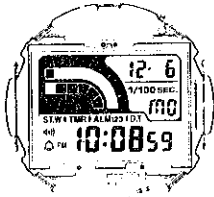



PARTS CATALOGUE / TECHNICAL GUIDE

Cal. G139A

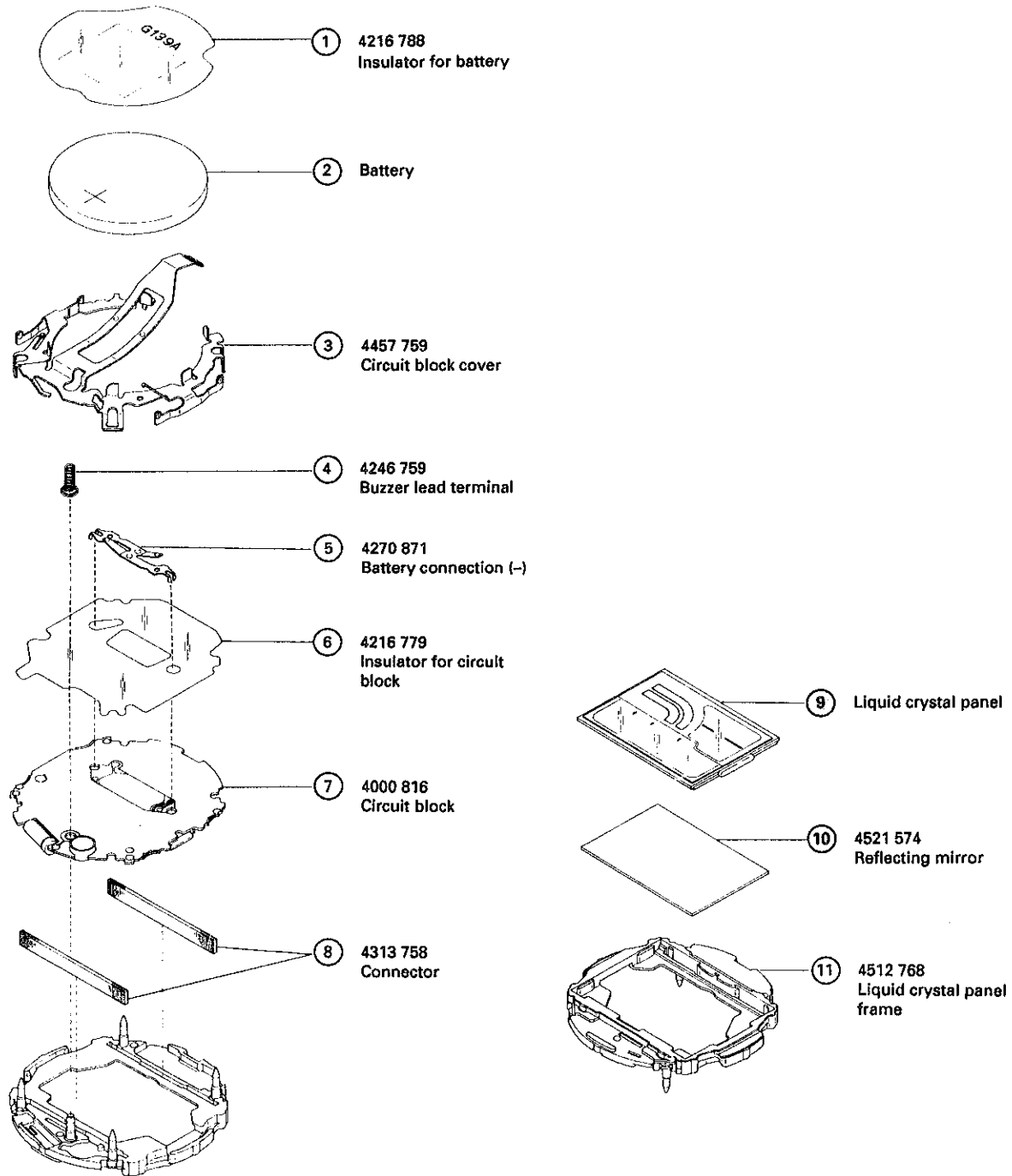
[SPECIFICATIONS]

Item		Cal. No.	G139A
Module			  <p style="text-align: right;">(x 1.0)</p>
Module size	Outside diameter	ø27.4mm	
	Casing diameter	ø27.4mm	
	Height	5.73mm (Including the battery portion)	
Display medium		Nematic Liquid Crystal, FEM (Field Effect Mode)	
Liquid crystal driving system		1/4 multiplex driving system	
Display system		<ul style="list-style-type: none"> • Time/calendar display • Stopwatch display (Up to 30 hours in 1/100 seconds) • Timer display (Up to 29 hours and 59 minutes) • Alarm display (3-channel alarm) • Dual time display 	
Additional mechanism		<ul style="list-style-type: none"> • Alarm test system • Illuminating light • All segments light-up system • Hourly time signal 	
Loss/gain		Monthly rate at normal temperature range: less than 20 seconds	
Regulation system		Nil	
Measuring gate by quartz tester		Use 10-second gate with all the segments of the display lit up.	
Battery		SEIKO CR2025, SONY CR2025, Matsushita CR2025 Battery life is approximately 5 years. Voltage: 3.0 V	

PARTS CATALOGUE

Cal. G139A

Disassembling procedures Figs. : (1) → (11)
 Reassembling procedures Figs. : (11) → (1)



○ ➡ Please see the remarks on the following pages.

PARTS CATALOGUE

Cal. G139A

Remarks:

⑨ Liquid crystal panel

L/C panel No.	L/C panel color	L/C panel design	Module ref. No.
4520 768	Silver	1/4 track graphic display	UG13920

The type of liquid crystal panel differs depending on models. Refer to "SEIKO Casing Parts Catalogue" to choose a corresponding liquid crystal panel.

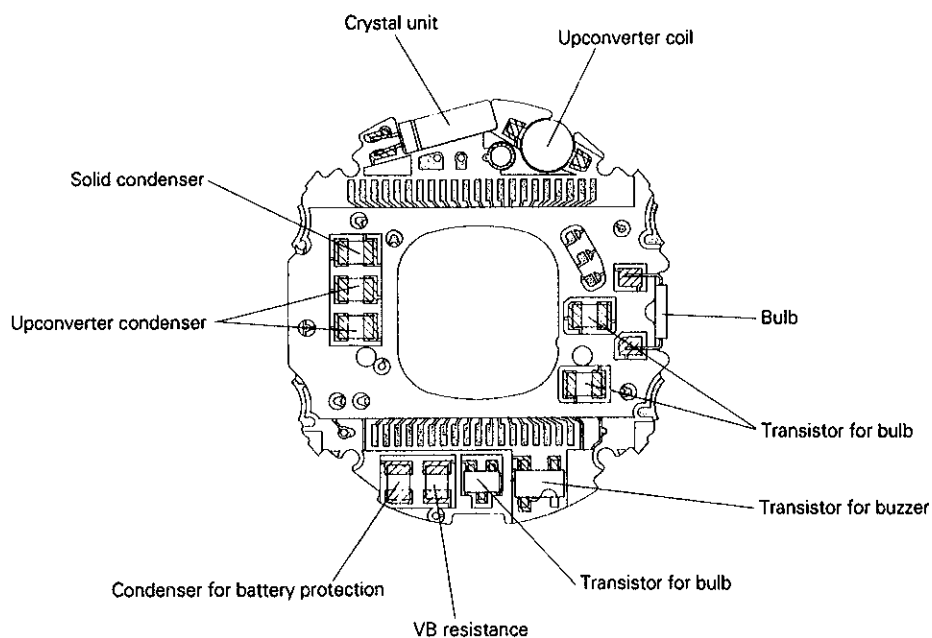
- Piezoelectric element 4589 759

TECHNICAL GUIDE

Cal. G139A

- The explanation here is only for the particular points of Cal. G139A.
- For the repairing, checking and measuring procedures, refer to the "TECHNICAL GUIDE, GENERAL INSTRUCTIONS".

I. STRUCTURE OF THE CIRCUIT BLOCK



II. REMARKS ON INSTALLING THE BATTERY

- **A necessary step after installing the battery**
 - After the battery is replaced with a new one, or after the battery is removed and re-installed following the repairing procedures, be sure to keep buttons "A", "B", "C" and "D" pressed at the same time for 3 seconds to reset the circuit.



III. REMARKS ON DISASSEMBLING AND REASSEMBLING

- ⑨ Liquid crystal panel
- ⑩ Reflecting mirror

- After disassembling the parts ① to ⑧, turn over the module to remove the liquid crystal panel and reflecting mirror.

IV. VALUE CHECKING

- **Upconverter coil resistance:** 140Ω ~ 180Ω
- **Current consumption**
 - For the whole of the module : less than 4.0μA
 - For the circuit block alone : less than 3.0μA