

S1D15K01 Series

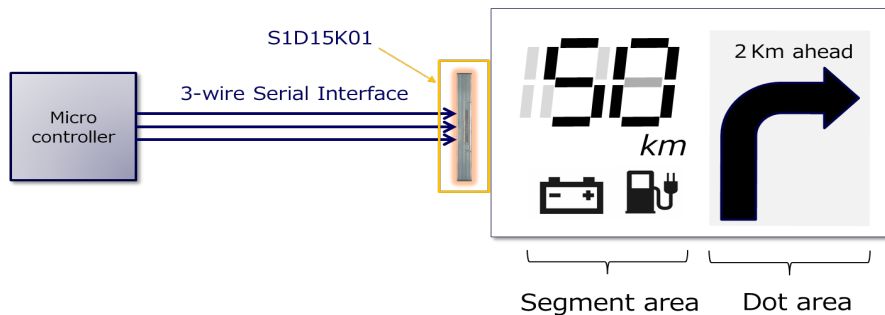
Automotive Dot Matrix and Segment LCD Hybrid Driver IC (Preliminary)

DESCRIPTIONS

The S1D15K01 is a Hybrid LCD Driver IC that can be directly connected to a microcontroller, enabling Segment and Dot Matrix display can be simultaneously displayed on a single LCD panel. The dedicated drive circuits for segment and dot matrix are mounted on a single chip, eliminating display defects caused by the difference in drive voltage between the segment area and dot matrix area, realizing high contrast display, and contributing to module cost reduction. The S1D15K01 also has a built-in temperature sensor circuit. This allows the system to be configured for optimal LCD contrast over a wide temperature range.

In addition, this product meets the stringent quality requirements for automotive applications, with an operating temperature of up to 105 °C and AEC-Q100 corresponsive.

SYSTEM BLOCK DIAGRAM



FEATURES

- Hybrid LCD can be driven by a single chip (Segment : 120 x 4 Dot Matrix : 160 x 80)
- Built-in temperature sensor circuit

OUTLINE SPECIFICATIONS

Operating Power Supply Voltage	System VDD to VSS:	3.0 V~5.5 V
	Booster VDD to VSS:	3.0 V~5.5 V
	LCD Drive V3 to MV3:	4.0 V~24.0 V
	V2 to MV2:	4.0 V~8.0 V
MPU Interface	3-wire Serial interface	
LCD Driver	Segment Display:	Segment 120 outputs, Common 4 outputs
	Dot Matrix Display:	Segment 160 outputs, Common 80 outputs
Display Data RAM	Segment Display:	120 × 4 = 480 bits
	Dot Matrix Display:	160 × 80 = 12,800 bits
Display Duty Configuration	Segment Display:	1/4 to 1/1
	Dot Matrix Display:	max 1/80
LCD Drive Bias Configuration	Segment Display:	1/3 (1/4duty to 1/2duty) , static (1/1duty)
	Dot Matrix Display:	1/5 to 1/13 (APT, IAPT conversion) Variable with Electronic volume
Error Detection Functions	Detection of bit corruption in command register RAM for Dot Matrix operation status error detection etc.	
Automotive QA	AEC-Q100	
Operating Temperature Range	-40~+105°C	
Others	Built-in Oscillation Circuit	
	Built-in Temperature Sensor Circuit	
Shipping Form	Au bump chip	

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(Rev.E1.0, 2021.9)

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Document code: 414033401
First issue November, 2021
in Japan