

Monsanto

**MAN2815
8-CHARACTER
14-SEGMENT ALPHA—NUMERIC DISPLAY**

PRODUCT DESCRIPTION

The MAN2815 is an end-stackable eight-character alpha-numeric display capable of displaying all alpha and numeric characters plus many symbols. The display consists of eight monolithic, red GaAsP chips. Each chip has 14 segments in the "British Flag" configuration. A decimal point (or period) is included on-board the chip.

The eight characters are mounted on 0.175" centers so that 5.7 characters consume only one inch of linear panel space. The display is internally wired for multiplex operation.

The MAN2815 utilizes a 24-pin, double dual-in-line package. The package thickness is 0.140". A built-in lens increases the character height of the display from 0.100" to an apparent height of 0.135". The lens is clear epoxy. For optimum on/off contrast, it is recommended that the display be placed directly behind a red filter such as a Panelgraphic Red 60 or a Homalite 100-1605.

PRODUCT APPLICATION

The MAN2815 is intended for use in lightweight, compact intelligent data terminals where operator interface requires the display of alpha-numeric information. Generally, the number of alpha-numeric characters to be displayed per system will be less than 80 characters.

PRODUCT FEATURES

The MAN2815 combines the unique features of LED's—ruggedness, high reliability, long-life, low-voltage operation—with a unique approach to alpha-numeric information display. The 14-segment display provides complete alpha-numeric information at a system cost not far above a numeric information display system. Compared to many 5x7 dot matrix systems, the 14-segment approach reduces system cost by one-half. Not only are the display and driving circuits lower in cost than many 5x7 dot matrix systems, but power requirements are also reduced.

ELECTRO-OPTICAL CHARACTERISTICS (25°C)

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Forward Voltage	$I_F = 5 \text{ mA dc/segment}$	1.45		1.75	Volts
Reverse Voltage	$I_R = 100 \mu\text{A dc/segment}$	3.5			Volts
Average Luminous Intensity/Segment	$I_F = 2.5 \text{ mA dc/segment}$ $I_F = 2.5 \text{ mA pulsed at}$ 1 khz, 20 mA peak, 1/8 duty cycle		70 120		μcd μcd
Luminous Intensity Ratio, Segment-to-Segment within a display				1.8:1	
Peak Emission Wavelength			660		nm

ABSOLUTE MAXIMUM RATINGS

Per Segment:

- DC Forward Current: 20 mA
- Pulsed Forward Current Peak (50 μs , 20% duty cycle): 100 mA
- Reverse Voltage: 5 Volts

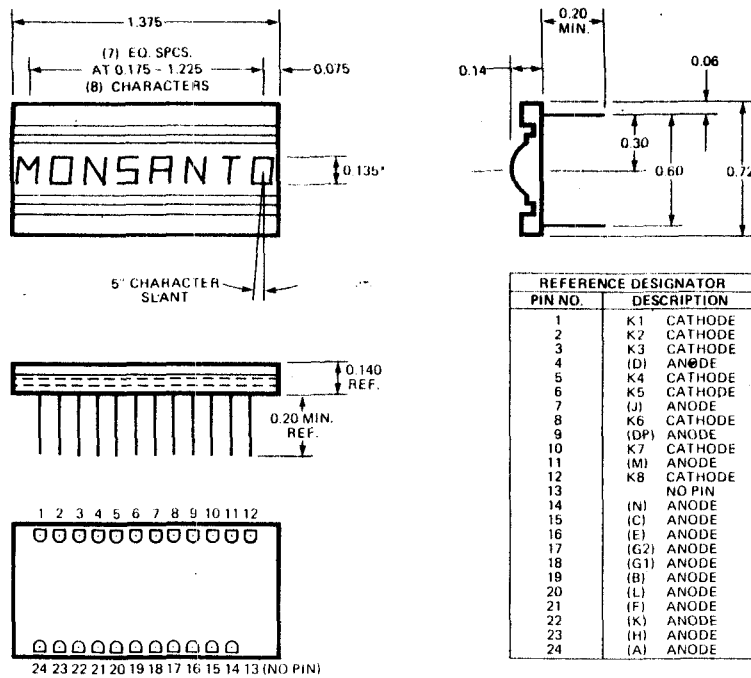
Per Character:

- DC Forward Current: 50 mA
- Average Power Dissipation @ 25°C Ambient: 80 mW
- Derate Linearly from 25°C: $-1.3 \text{ mW/}^\circ\text{C}$

Total Package:

- Average Power Dissipation @ 25°C Ambient: 640 mW
- Derate Linearly from 25°C: $-10.5 \text{ mW/}^\circ\text{C}$
- Storage Temperature: -40°C to $+85^\circ\text{C}$
- Operating Temperature: -40°C to $+85^\circ\text{C}$

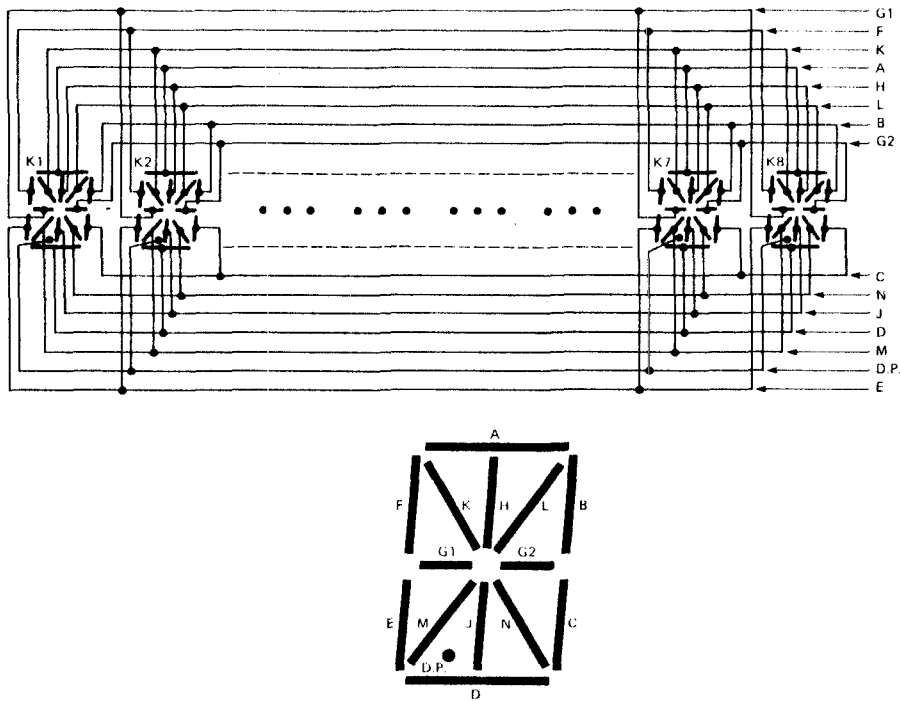
PACKAGE DIMENSIONS



*FONT HEIGHT MAGNIFIED

TOLERANCES ± .015

ELECTRICAL CONNECTIONS



Electronics Division

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