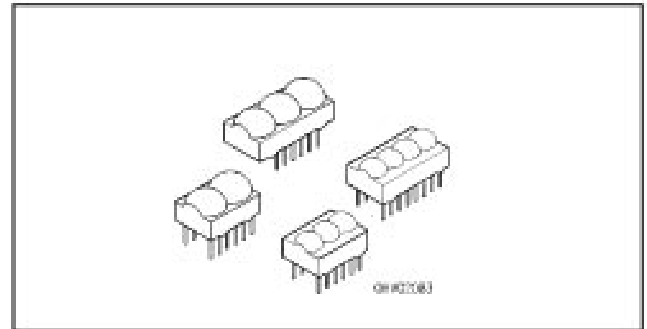


## Seven Segment Magnified Monolithic Display 2.8 mm (11") /3.8 mm (15")

DL-330M  
DL-340M  
DL-430M  
DL-440M

### Features

- Rugged encapsulated package
- Integrated magnifier lens
- Monolithic construction for maximum brightness at minimum power
- Common cathode for simplicity of multiplexing
- Standard Dual-In-Line package
- Categorized for brightness uniformity



### Description

The DL-330M/DL-340M and DL-430M/DL-440M are red numeric LED displays. Low cost is achieved through minimum use of monolithic GaAsP material and magnification to full height using a simple integrated lens construction. A red plexiglass or circularly polarized filter is recommended to enhance visibility and to eliminate glare from the surface of the package.

These displays are designed for multiplex operations, the desired digit being displayed by selecting the appropriate cathode. A right hand decimal point is provided.

All devices are optimized for low power portable battery operated equipment using MOS and CMOS integrated logic circuits such as DMM's and digital thermometers.

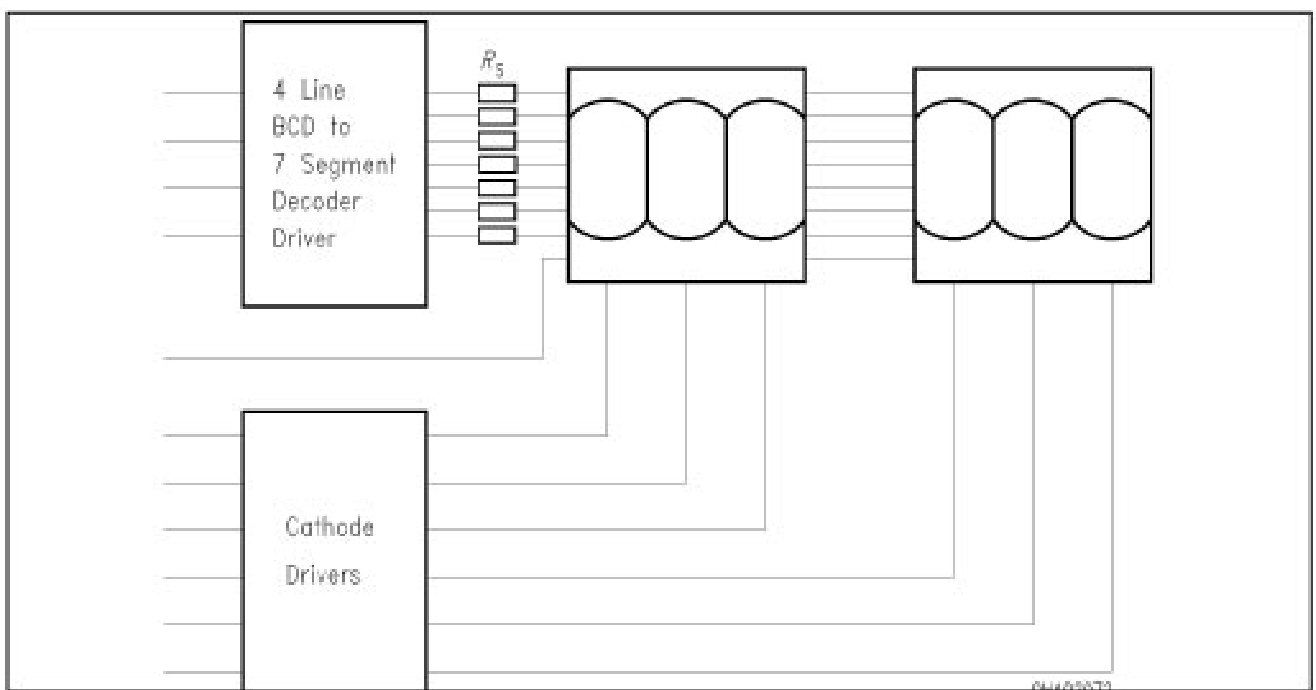
Type	Character Height mm (inch)	Color of emission	Luminous intensity / Segment $I_F = 5 \text{ mA}$ $I_V (\mu\text{cd})$	Ordering code
DL-330M	2.8 (11")	red	2500 per digit	Q68000-A5993-F114
DL-340M	2.8 (11")	red	2500 per digit	Q68000-A5994-F114
DL-430M	3.8 (15")	red	2500 per digit	Q68000-A5995-F114
DL-440M	3.8 (15")	red	2500 per digit	Q68000-A5996-F114

### Maximum Ratings ( $T_A = 25\text{ }^\circ\text{C}$ )

Description	Symbol	Value	Unit
Operating temperature range	$T_{op}$	-20...+70	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-20...+70	$^\circ\text{C}$
Continuous forward current per segment and decimal	$I_F$	7	mA
Peak pulse current (10 $\mu\text{s}$ )	$I_P$	50	mA
Peak reverse voltage per segment and decimal	$V_R$	3.0	V
Power dissipation	$P_{tot}$	320	mW
Derating factor from 25 $^\circ\text{C}$ /per digit		4.3	mW/ $^\circ\text{C}$

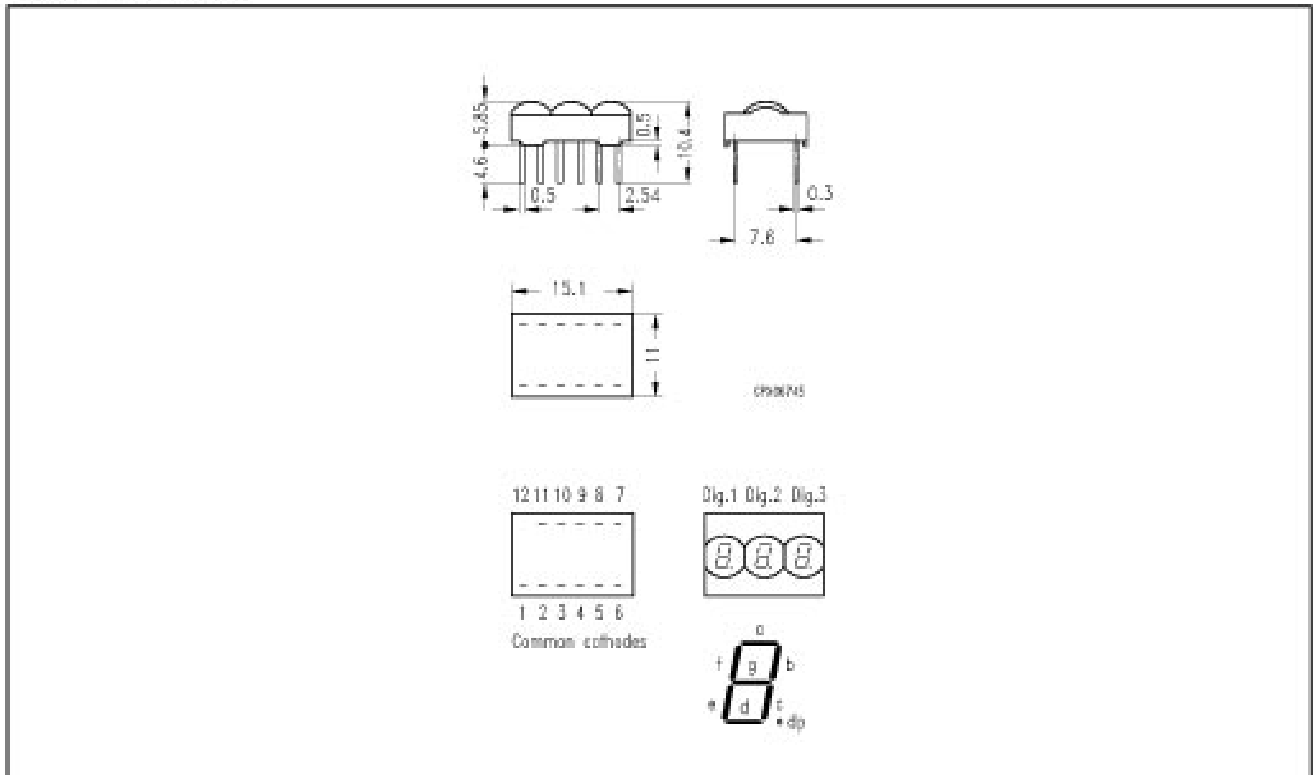
### Characteristics ( $T_A = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Values			Unit
		min	typ.	ma	
Luminous intensity (total digit), $I_F = 5\text{ mA per Seg.}$	$I_R$	1.0	2.5	-	mcd
Wavelength at emission peak	$\lambda_{peak}$	-	-	660	nm
Line half-width	$\Delta\lambda$	40	-	-	nm
Forward voltage, $I_F = 20\text{ mA per digit, } V = 0$	$V_F$	-	1.7	2.0	V
Reverse current, $V_R = 3.0\text{ V}$	$I_R$	-	-	100	$\mu\text{A}$

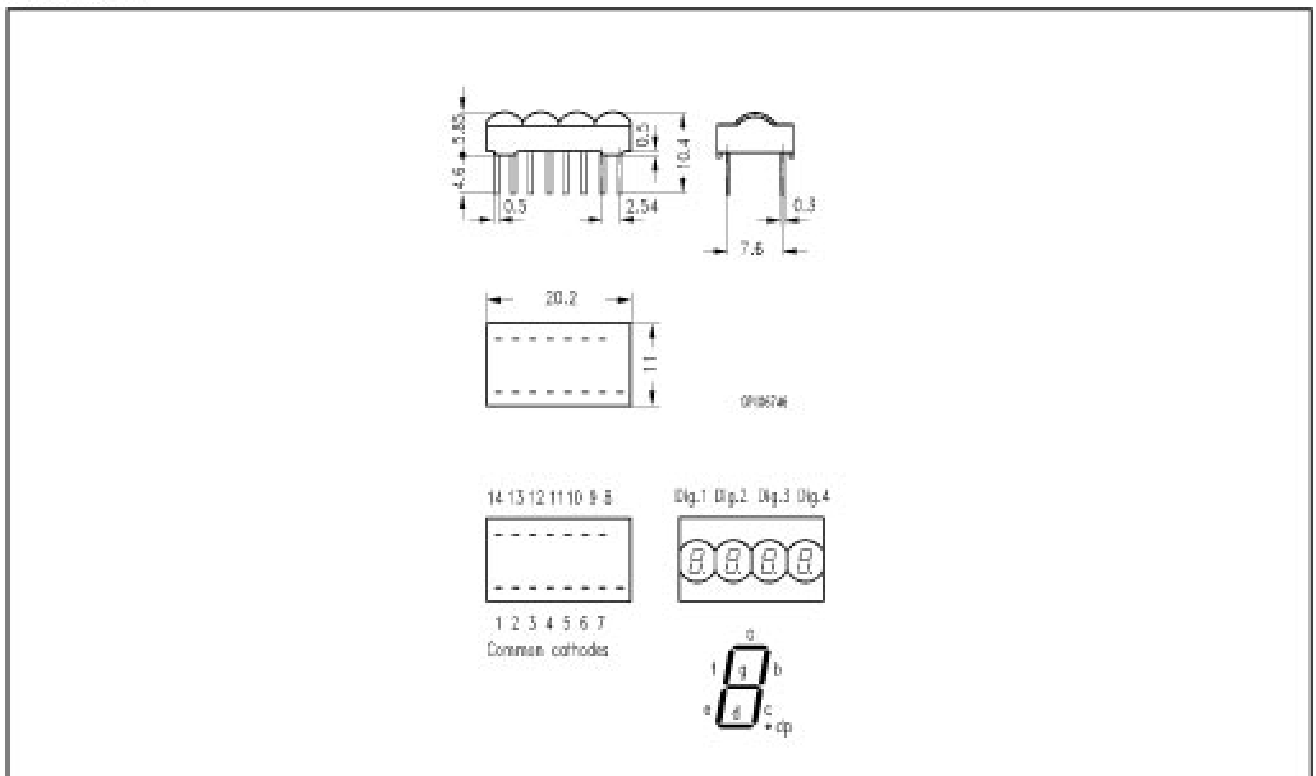


**Block Diagram**

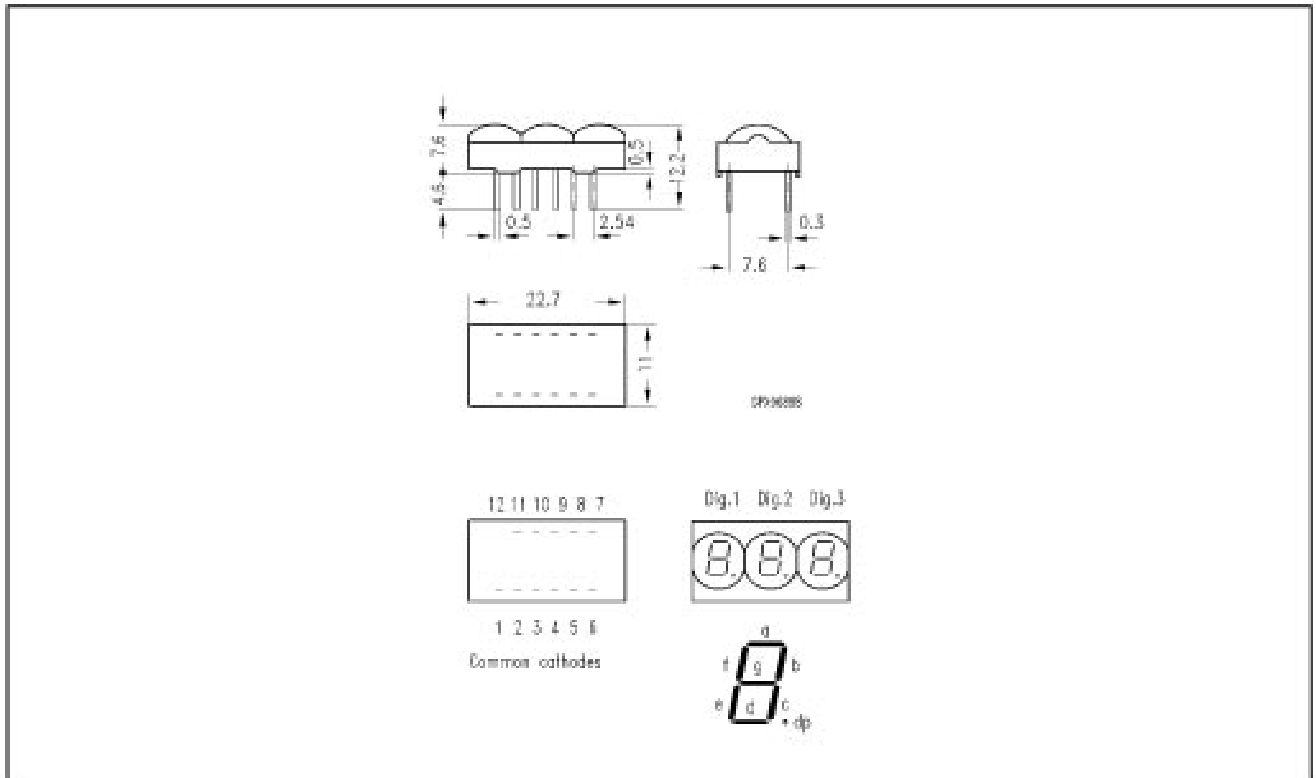
## Package Outline



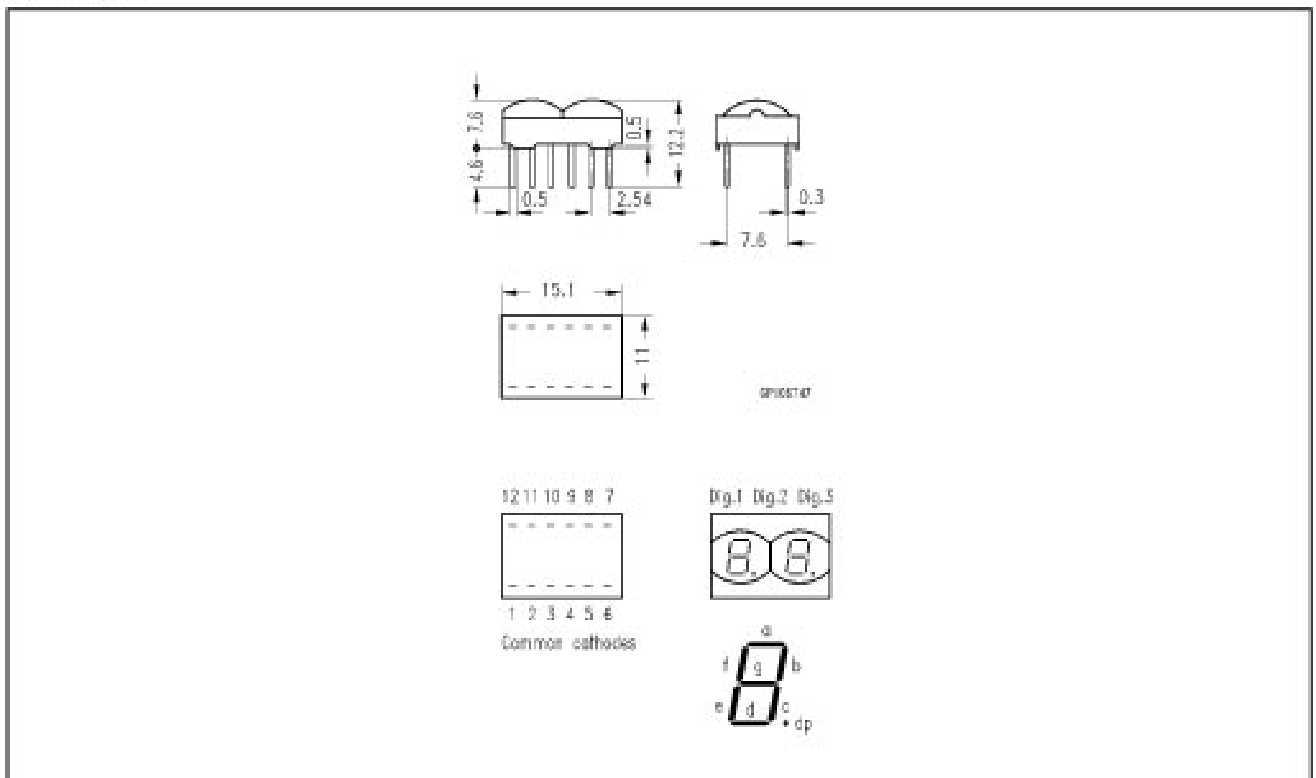
## DL-330 M



## DL-340 M



## DL-430 M



## DL-440 M