LED Dot Matrix Display

multicomp PRO

RoHS Compliant

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol		Rating	Unit
Power Dissipation - Per Dot	P_D	R	782	mW
		G	72	
Pulse Current (1/10 Duty Cycle, 0.1ms Pulse Width) - Per Chip	I_{FP}		100	mA
Forward Current - Per Chip	I_F		30	mA
Reverse (Leakage) Current - Per Chip	Ir		100	μA
Reverse Voltage - Per Chip	V_R		5	V
Operating Temperature Range	Topr.		-25 to +85	°C
Storage Temperature Range	Tstg.		-40 to +100	
Soldering Temperature	Tsol.		Dip Soldering: 260°C for 5sec. Hand Soldering: 350°C for 3sec.	

Electrical and Optical Characteristics

Parameter	Symbol		Condition	Value			Unit
				Min.	Typ.	Max.	
Luminous Intensity (Per Dot)	Iv	R	If=10mA/Dot	15.01	30	-	mcd
		G	If=10mA/Dot	19.51	40.5	-	
Forward Current	Vf	R	If=20mA/Dot	-	1.9	2.4	V
		G	If=20mA/Dot	-	1.9	2.4	
Peak Wavelength	λp	R	If=20mA/Dot	-	650	-	nm
		G	If=20mA/Dot	-	573	-	
Dominant Wavelength	λd	R	If=20mA/Dot	-	639	-	nm
		G	If=20mA/Dot	-	570	-	
Reverse Current - Per Chip (Leakage Current - Per Chip)	Ir	R	Vr=5V	-	-	100	μA
		G	Vr=5V	-	-	100	
Spectrum Line Halfwidth	Δλ	R	If=20mA/Dot	-	20	-	nm
		G	If=20mA/Dot	-	20	-	
Response Time	T		-	-	250	-	ns

Typical Electrical & Optical Characteristics Curves

(25°C Ambient temperature unless otherwise noted)

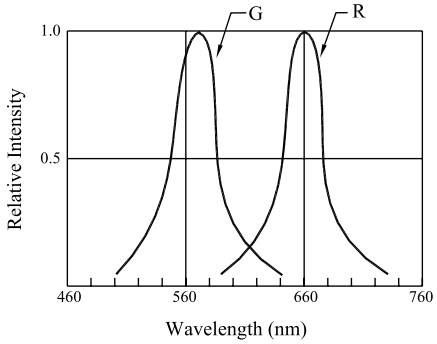


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

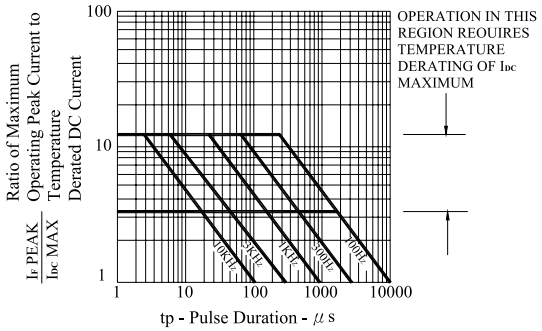


Fig.2 MAXIMUM TOLERABLE PEAK CURRENT VS. PULSE DURATION

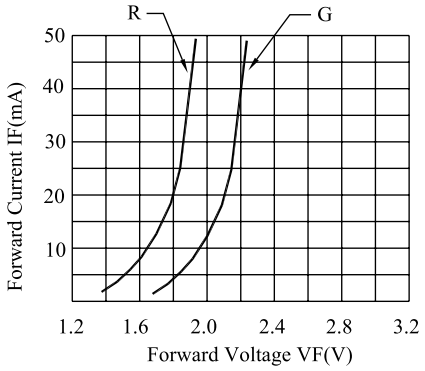


Fig .3 FORWARD CURRENT VS. FORWARD VOLTAGE PER CHIP

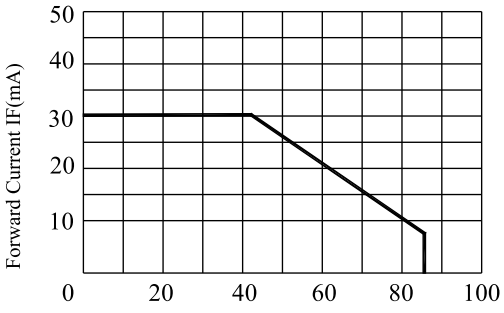


Fig.4 FORWARD CURRENT VS. DERATING CURVE

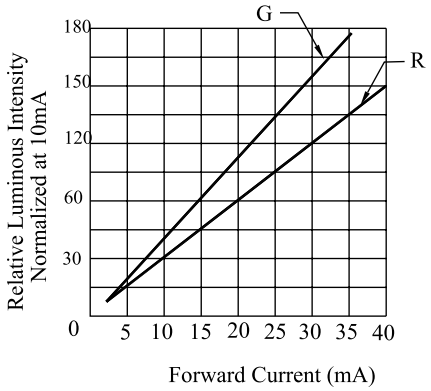


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

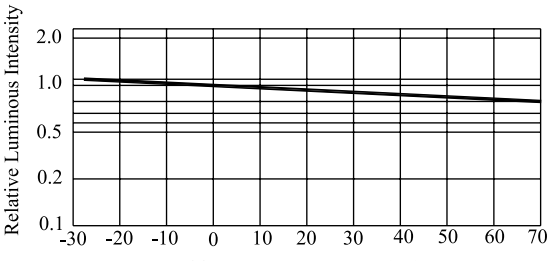
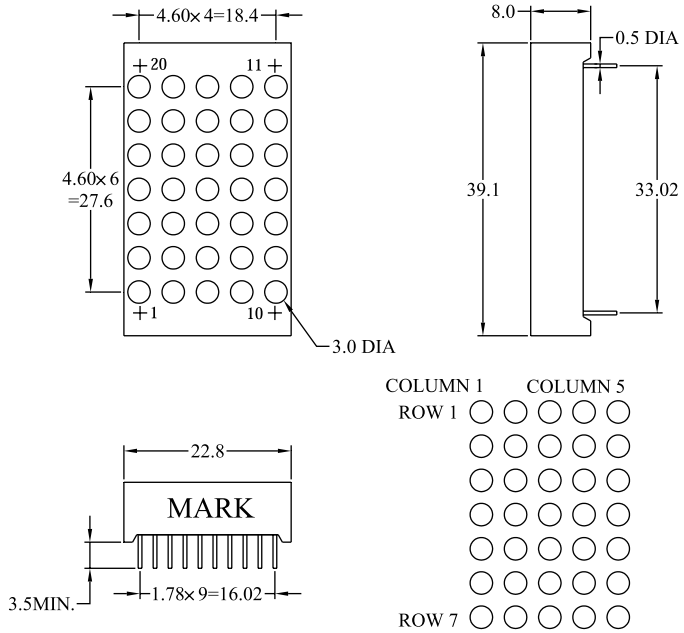


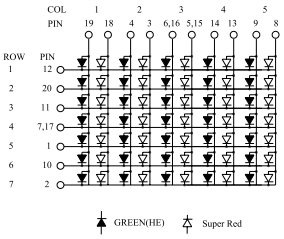
Fig.6 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

Package Dimensions

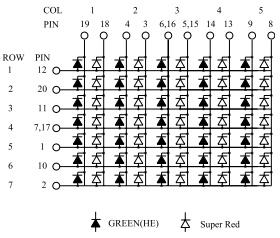


Internal Circuit Diagram

703-0196:



703-0197:



Part Number Table

LED Chip		Face Colour		Part Number	
Material	Emitting Colour	Surface	Segments		
AlGaInP / GaP	Deep red	Grey	White	R	703-0196
	Yellow green			G	
	Deep red			R	703-0197
	Yellow green			G	

Dimensions : Millimetres
Tolerance: ±0.25mm
The slope of any PIN may be ±5° max.