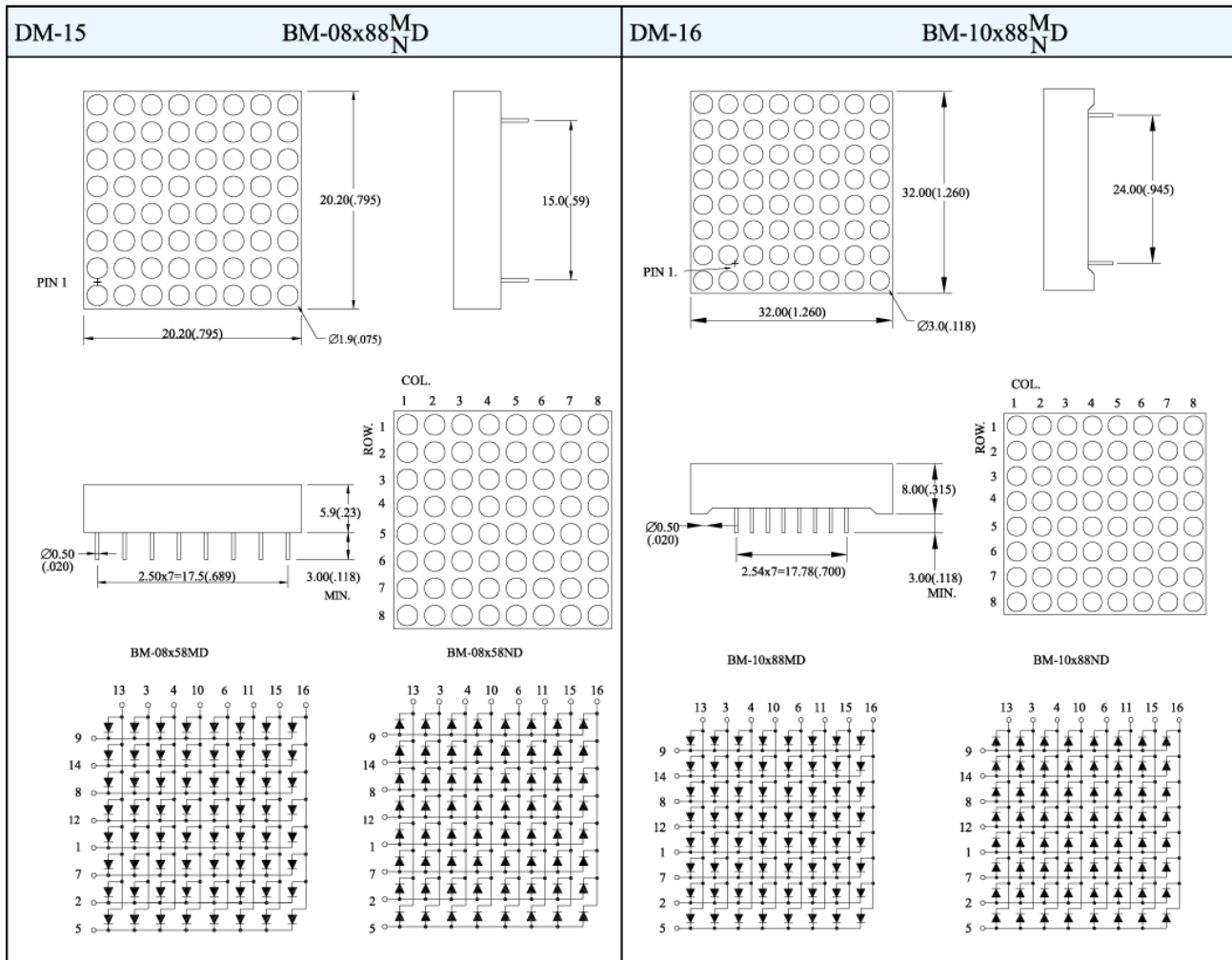




LED Dot Matrix Display BM Series

Single Color, 8 x 8 Dot Matrix Displays

Digit Size	Part No.		Chip		Absolute Maximum Ratings				Electro-optical Data(At 10mA)			Drawing No.
	Column Common Anode	Column Common Cathode	Material/Emitted Color	Peak Wave Length λ_p (nm)	$\Delta \lambda$ (nm)	Pd (mw)	If (mA)	Ifp (mA)	Vf (v)		Iv. Typ. Per.Seg. (mcd)	
									Typ.	Max.		
0.80" High ϕ 1.9	BM-08288MD	BM-08288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	8.0	DM-15
	BM-08488MD	BM-08488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	8.0	
	BM-08488MA	BM-08488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	12.0	
	BM-08688MD	BM-08688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	12.0	
	BM-08688MA	BM-08688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	16.0	
	BM-08F88MD	BM-08F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	18.0	
	BM-08J88MD	BM-08J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	20.0	
	BM-08K88MD	BM-08K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	20.0	
1.20" High ϕ 3.0	BM-10288MD	BM-10288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	9.0	DM-16
	BM-10488MD	BM-10488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	9.0	
	BM-10488MA	BM-10488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	14.0	
	BM-10688MD	BM-10688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	14.0	
	BM-10688MA	BM-10688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	18.0	
	BM-10F88MD	BM-10F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	20.0	
	BM-10J88MD	BM-10J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	22.0	
	BM-10K88MD	BM-10K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	22.0	



NOTES: 1.All Dimensions are in millimeters(inches).

3.Specifications are subject to change without notice.

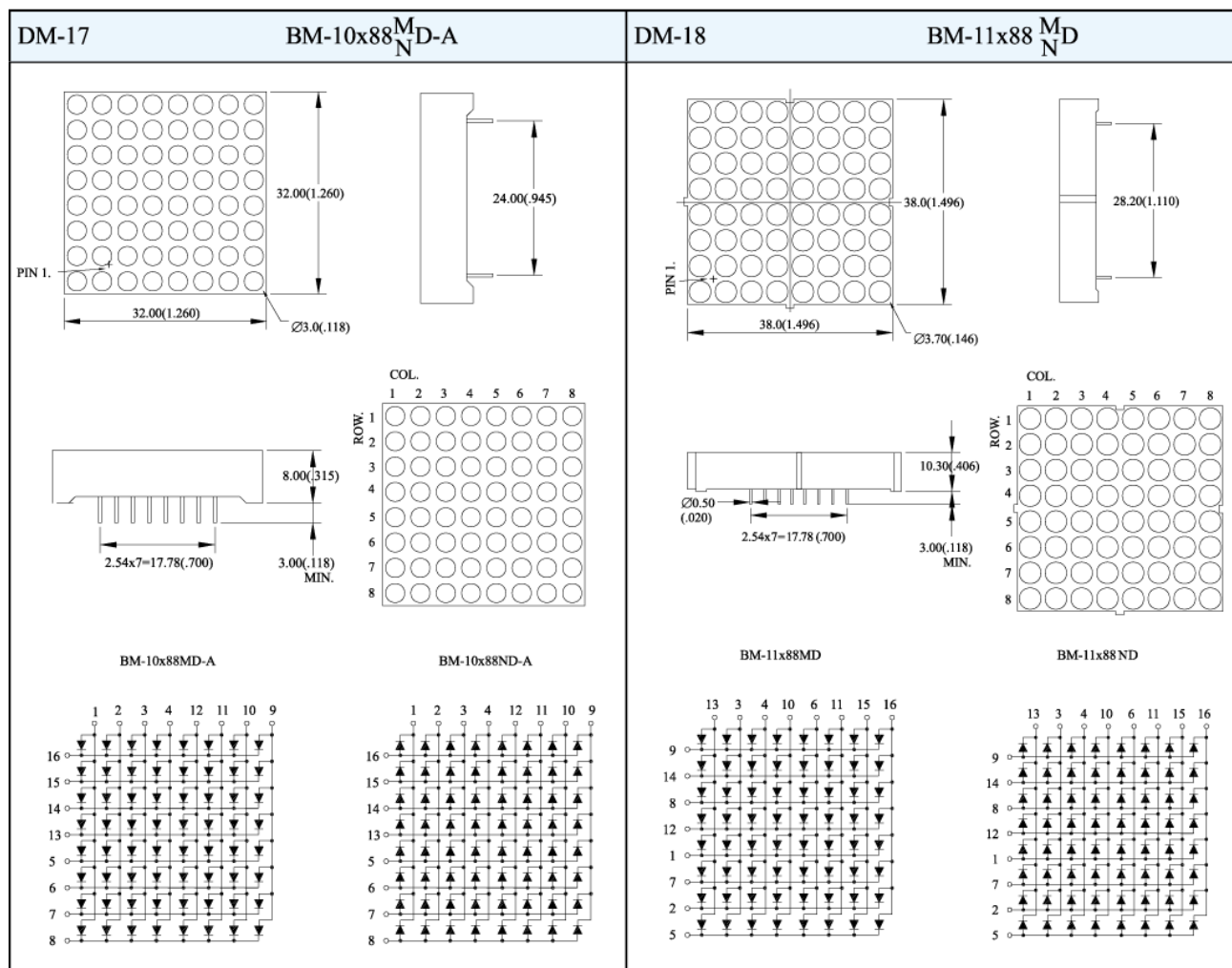
2.Tolerance is $\pm 0.25\text{mm}(.010")$.

4.NP:No Pin. 5.NC:No Connect.

AMERICAN BRIGHT

Single Color, 8 x 8 Dot Matrix Displays

Digit Size	Part No.		Chip		Absolute Maximum Ratings				Electro-optical Data(At 10mA)			Drawing No.
	Column Common Anode	Column Common Cathode	Material/Emitted Color	Peak Wave Length λ_p (nm)	$\Delta \lambda$ (nm)	Pd (mw)	If (mA)	Ifp (mA)	Vf (v)		Iv. Typ. Per.Seg. (mcd)	
									Typ.	Max.		
1.20" High ϕ 3.0	BM-10288MD-A	BM-10288ND-A	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	9.0	DM-17
	BM-10488MD-A	BM-10488ND-A	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	9.0	
	BM-10488MA-A	BM-10488NA-A	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	14.0	
	BM-10688MD-A	BM-10688ND-A	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	14.0	
	BM-10688MA-A	BM-10688NA-A	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	18.0	
	BM-10F88MD-A	BM-10F88ND-A	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	20.0	
	BM-10J88MD-A	BM-10J88ND-A	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	22.0	
	BM-10K88MD-A	BM-10K88ND-A	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	22.0	
1.50" High ϕ 3.7	BM-11288MD	BM-11288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	10.0	DM-18
	BM-11488MD	BM-11488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	10.0	
	BM-11488MA	BM-11488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	15.0	
	BM-11688MD	BM-11688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	15.0	
	BM-11688MA	BM-11688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	19.0	
	BM-11F88MD	BM-11F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	21.0	
	BM-11J88MD	BM-11J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	23.0	
	BM-11K88MD	BM-11K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	23.0	



NOTES: 1.All Dimensions are in millimeters(inches).

3.Specifications are subject to change without notice.

2.Tolerance is $\pm 0.25\text{mm}(.010")$.

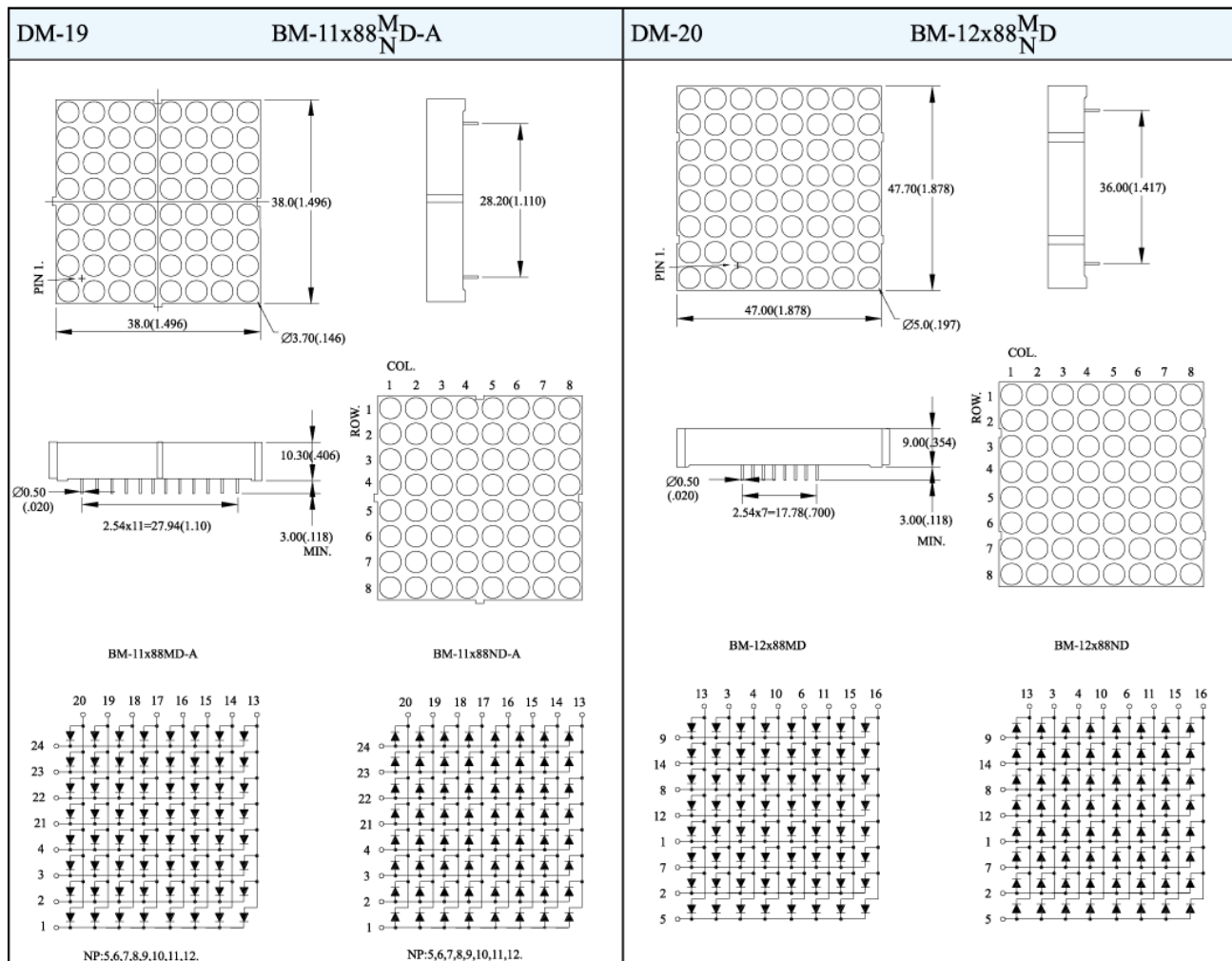
4.NP:No Pin. 5.NC:No Connect.



LED Dot Matrix Display BM Series

Single Color, 8 x 8 Dot Matrix Displays

Digit Size	Part No.		Chip		Absolute Maximum Ratings				Electro-optical Data(At 10mA)			Drawing No.
	Column Common Anode	Column Common Cathode	Material/Emitted Color	Peak Wave Length λ_p (nm)	$\Delta \lambda$ (nm)	Pd (mw)	If (mA)	Ifp (mA)	Vf (v)		Iv. Typ. Per.Seg. (mcd)	
									Typ.	Max.		
1.50" High ϕ 3.7	BM-11288MD-A	BM-11288ND-A	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	10.0	DM-19
	BM-11488MD-A	BM-11488ND-A	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	10.0	
	BM-11488MA-A	BM-11488NA-A	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	15.0	
	BM-11688MD-A	BM-11688ND-A	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	15.0	
	BM-11688MA-A	BM-11688NA-A	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	19.0	
	BM-11F88MD-A	BM-11F88ND-A	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	21.0	
	BM-11J88MD-A	BM-11J88ND-A	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	23.0	
	BM-11K88MD-A	BM-11K88ND-A	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	23.0	
1.90" High ϕ 5.0	BM-12288MD	BM-12288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	12.0	DM-20
	BM-12488MD	BM-12488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	12.0	
	BM-12488MA	BM-12488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	17.0	
	BM-12688MD	BM-12688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	17.0	
	BM-12688MA	BM-12688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	21.0	
	BM-12F88MD	BM-12F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	23.0	
	BM-12J88MD	BM-12J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	25.0	
	BM-12K88MD	BM-12K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	25.0	



NOTES: 1.All Dimensions are in millimeters(inches).

3.Specifications are subject to change without notice.

2.Tolerance is $\pm 0.25\text{mm}(.010")$.

4.NP:No Pin. 5.NC:No Connect.

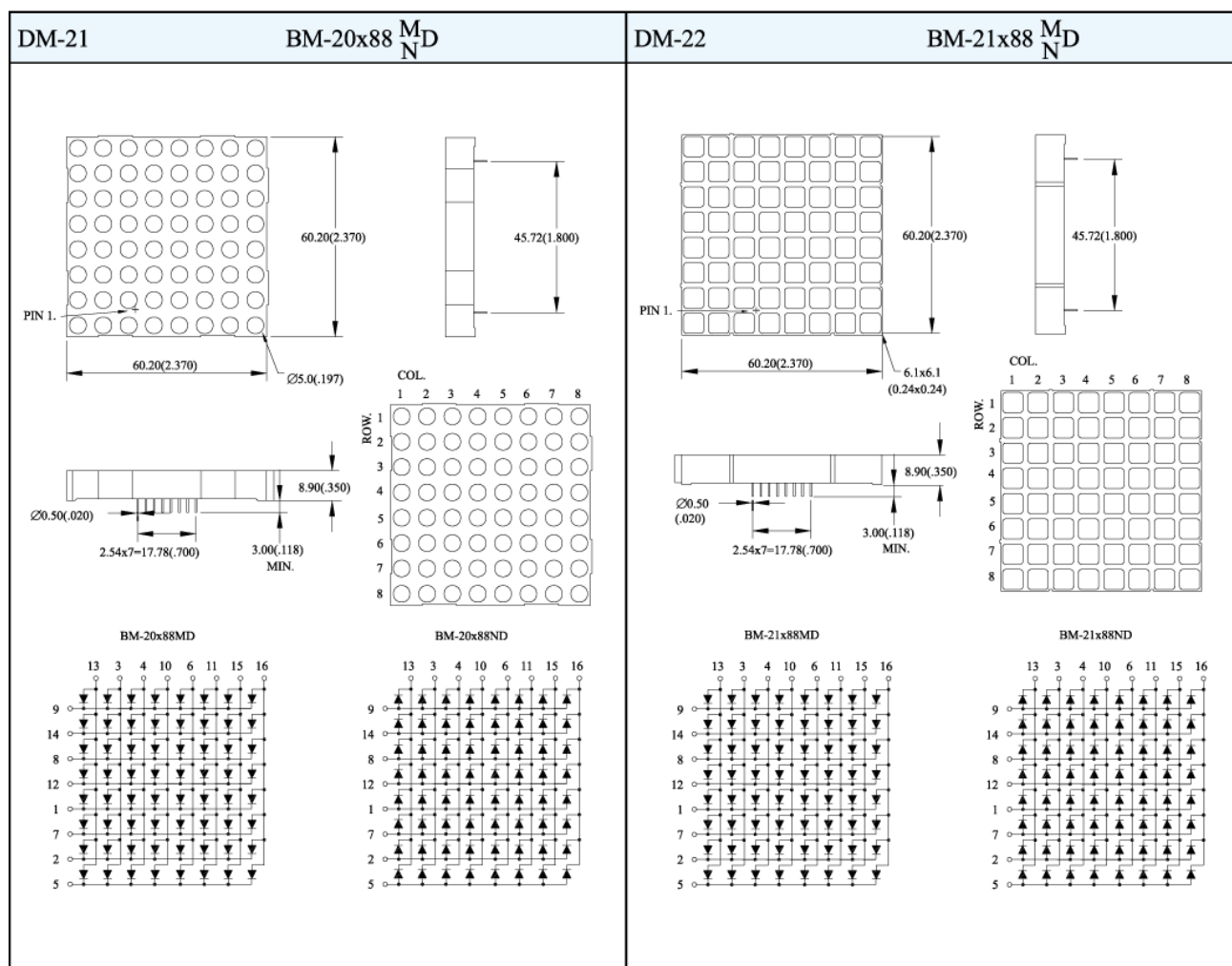
AMERICAN BRIGHT



LED Dot Matrix Display BM Series

Single Color, 8 x 8 Dot Matrix Displays

Digit Size	Part No.		Chip		Absolute Maximum Ratings				Electro-optical Data(At 10mA)			Drawing No.
	Column Common Anode	Column Common Cathode	Material/Emitted Color	Peak Wave Length λ_p (nm)	$\Delta \lambda$ (nm)	Pd (mw)	If (mA)	Ifp (mA)	Vf (v)		Iv. Typ. Per.Seg. (mcd)	
									Typ.	Max.		
2.30" High ϕ 5.0	BM-20288MD	BM-20288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	12.0	DM-21
	BM-20488MD	BM-20488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	12.0	
	BM-20488MA	BM-20488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	17.0	
	BM-20688MD	BM-20688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	17.0	
	BM-20688MA	BM-20688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	21.0	
	BM-20F88MD	BM-20F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	23.0	
	BM-20J88MD	BM-20J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	25.0	
	BM-20K88MD	BM-20K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	25.0	
2.3" High 6.1x6.1	BM-21288MD	BM-21288ND	GaP/ GaP/ Yellow Green	568	30	80	30	150	2.1	2.5	12.0	DM-22
	BM-21488MD	BM-21488ND	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	12.0	
	BM-21488MA	BM-21488NA	GaAsP/GaP/ Hi-Eff.Red	635	45	80	30	150	2.0	2.5	17.0	
	BM-21688MD	BM-21688ND	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	17.0	
	BM-21688MA	BM-21688NA	GaAlAs/ SH/ Super Red	660	20	80	30	150	1.7	2.5	21.0	
	BM-21F88MD	BM-21F88ND	GaAlAs/ DDH/ Super Red	660	20	80	30	150	2.0	2.5	23.0	
	BM-21J88MD	BM-21J88ND	AlGaInP/GaAs/ Ultra Orange	620	17	80	30	150	2.0	2.5	25.0	
	BM-21K88MD	BM-21K88ND	AlGaInP/GaAs/ Ultra Yellow	592	15	80	30	150	2.1	2.5	25.0	



NOTES: 1.All Dimensions are in millimeters(0.039 inches).

3.Specifications are subject to change without notice.

2.Tolerance is $\pm 0.25\text{mm}(.010")$.

4.NP:No Pin.

5.NC:No Connect.

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