

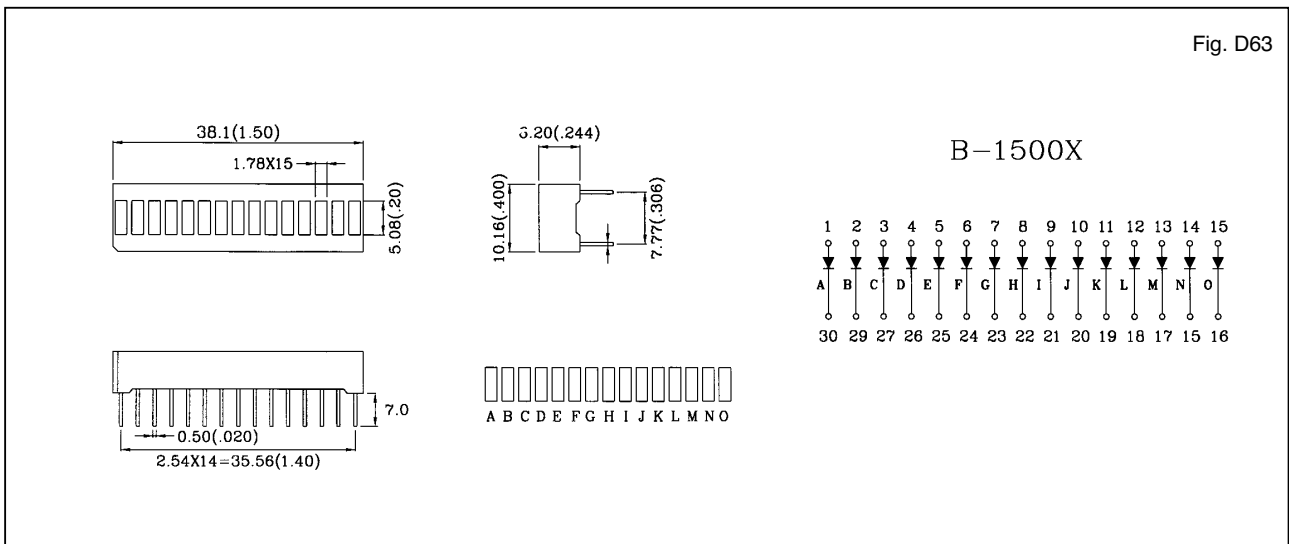
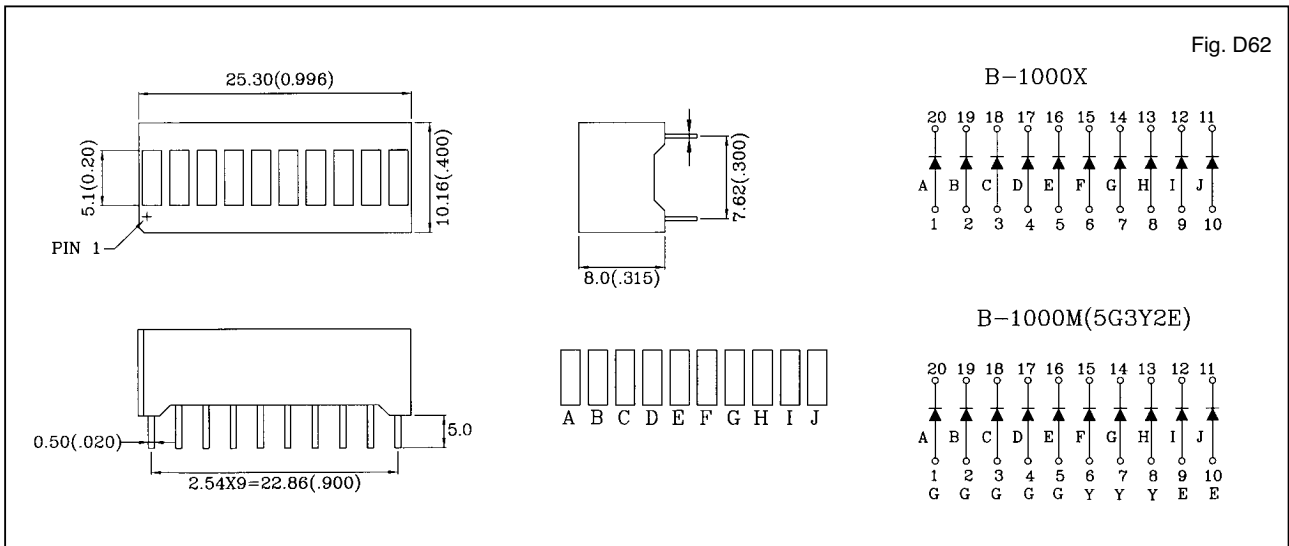



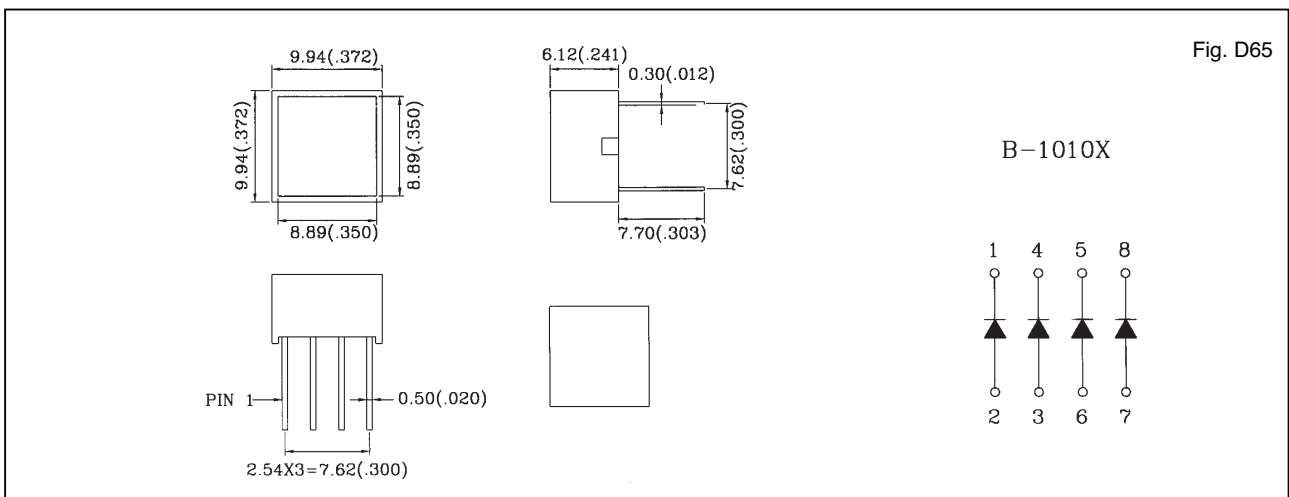
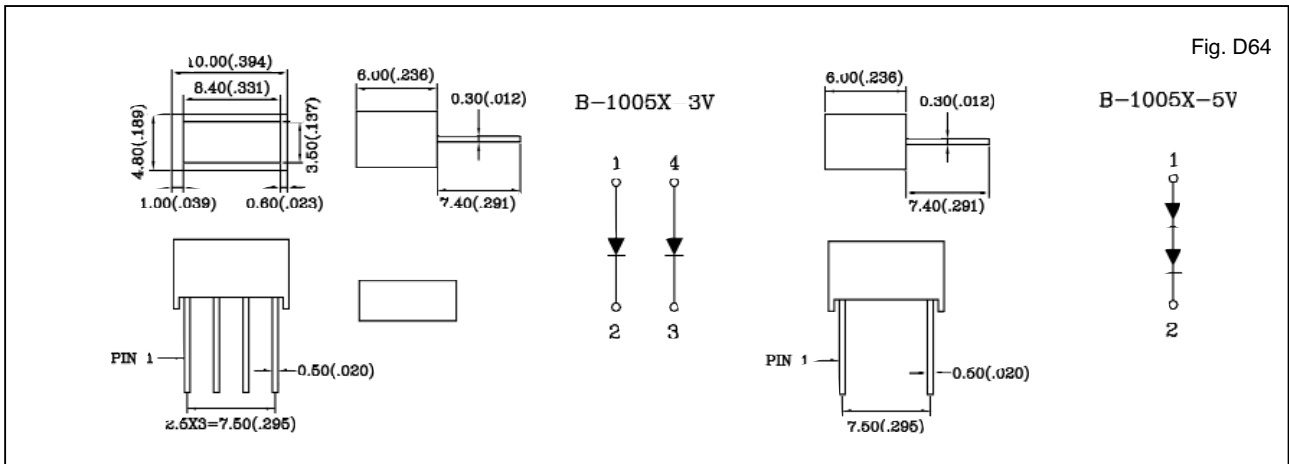


Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.	
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA		
				Typ.		Max.	Typ.		
	B-1000E	GaAsP/GaP	Hi. effi Red	635	2.1	2.8	2.0	D62	
	B-1000G	GaP	Green	565	2.2	2.8	2.0		
	B-1000Y	GaAsP/GaP	Yellow	585	2.1	2.8	2.0		
	B-1000SR	GaAlAs	Super Red	660	1.8	2.2	10.0		
	B-1000LB61	GaInN/GaN	Blue	462	3.5	4.0	12.0		
	B-1500E	GaAsP/GaP	Hi. effi Red	635	2.1	2.8	2.0	D63	
	B-1500G	GaP	Green	565	2.2	2.8	2.0		
	B-1500Y	GaAsP/GaP	Yellow	585	2.1	2.8	2.0		
	B-1500SR	GaAlAs	Super Red	660	1.8	2.2	10.0		





1. All dimension are in millimeters (inches).
2. Tolerance is  $\pm 0.25$  mm (0.01") unless otherwise specified.

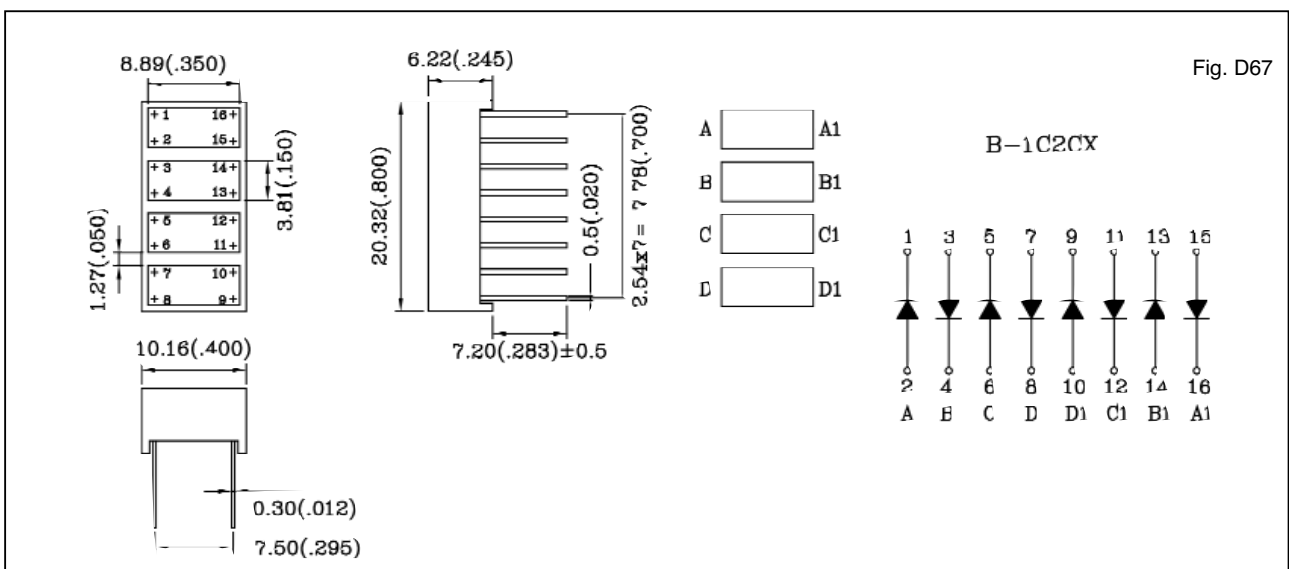
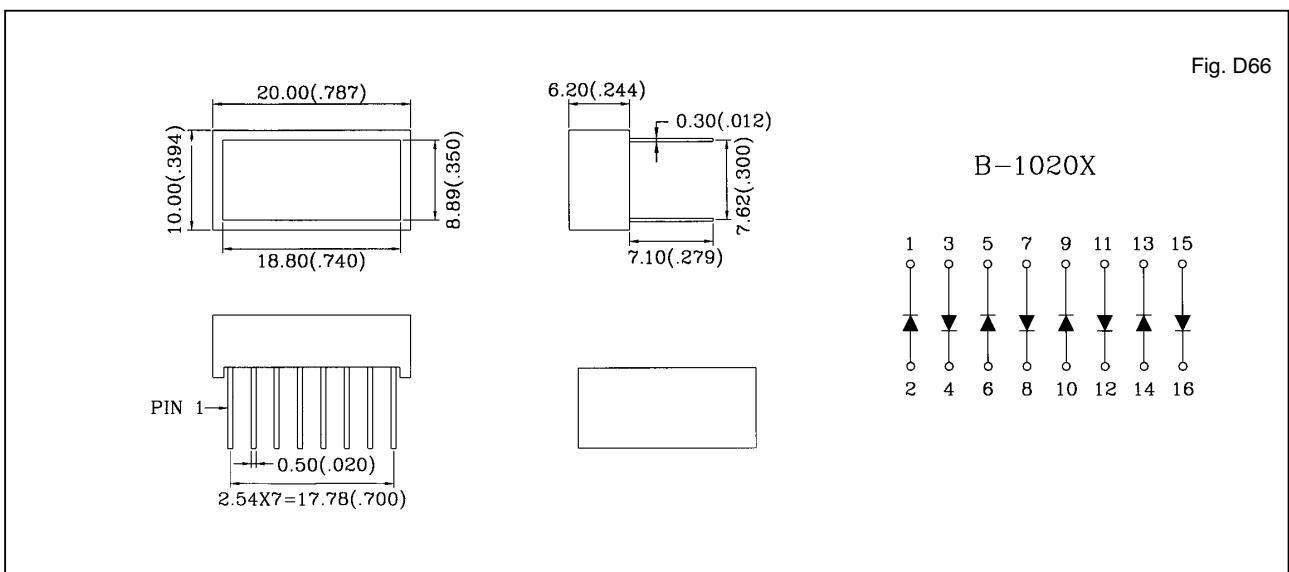
Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-1005E-3V	GaAsP/GaP	Hi.effi Red	635	2.0	2.8	4.0	D64
	B-1005G-3V	GaP	Green	565	2.1	2.8	3.0	
	B-1005Y-3V	GaAsP/GaP	Yellow	585	2.1	2.8	3.0	
	B-1005SR-3V	GaAlAs	Super Red	660	1.8	2.4	6.0	
	B-1005E-5V	GaAsP/GaP	Hi.effi Red	635	4.0	5.6	4.0	D64
	B-1005G-5V	GaP	Green	565	4.2	5.6	3.0	
	B-1005Y-5V	GaAsP/GaP	Yellow	585	4.2	5.6	3.0	
	B-1005SR-5V	GaAlAs	Super Red	660	3.6	4.8	6.0	
	B-1010E	GaAsP/GaP	Hi.effi Red	635	2.0	2.8	6.0	D65
	B-1010G	GaP	Green	565	2.1	2.8	5.0	
	B-1010Y	GaAsP/GaP	Yellow	585	2.1	2.8	5.0	
	B-1010SR	GaAlAs	Super Red	660	1.8	2.4	12.0	



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**B-1020X, B-1C2CX LIGHT BAR**

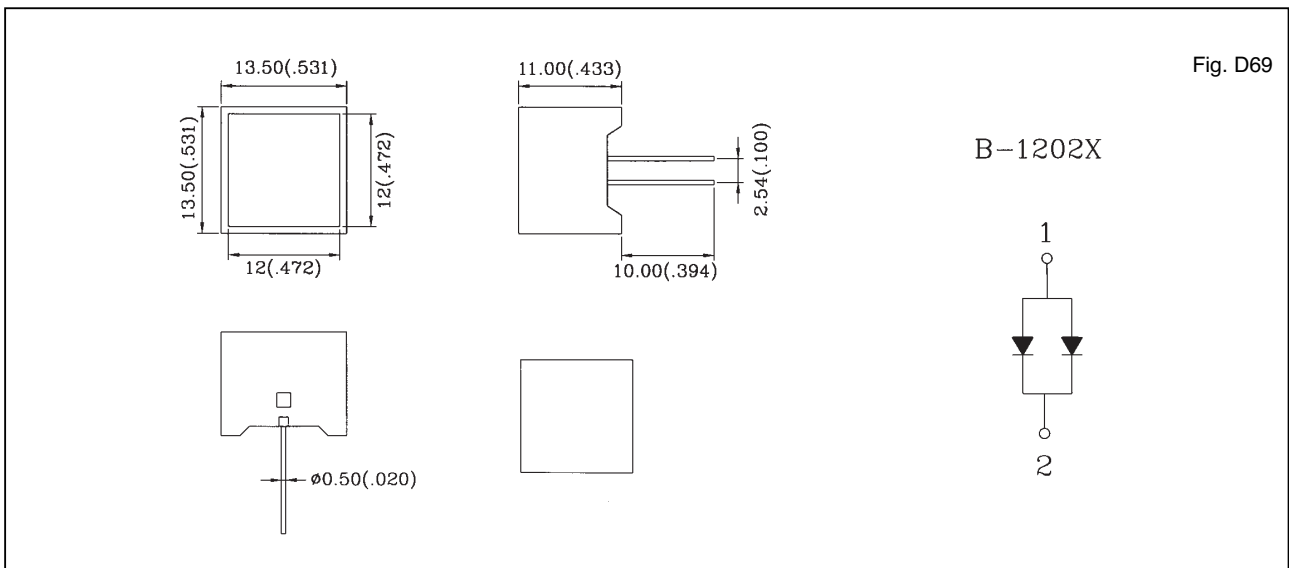
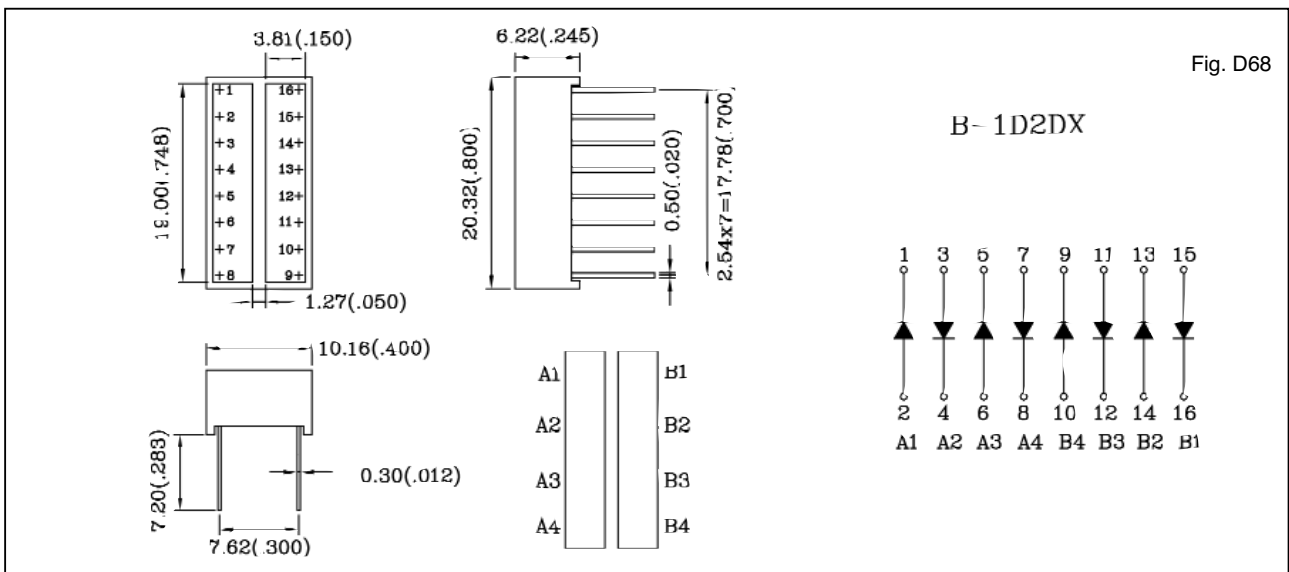
Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-1020E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	12.0	D66
	B-1020G	GaP	Green	565	2.2	2.8	10.0	
	B-1020Y	GaAsP/GaP	Yellow	585	2.1	2.8	10.0	
	B-1020SR	GaAlAs	Super Red	660	1.8	2.2	20.0	
	B-1C2CE	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	12.0	D67
	B-1C2CG	GaP	Green	565	2.2	2.8	10.0	
	B-1C2CY	GaAsP/GaP	Yellow	585	2.1	2.8	10.0	
	B-1C2CSR	GaAlAs	Super Red	660	1.8	2.2	20.0	




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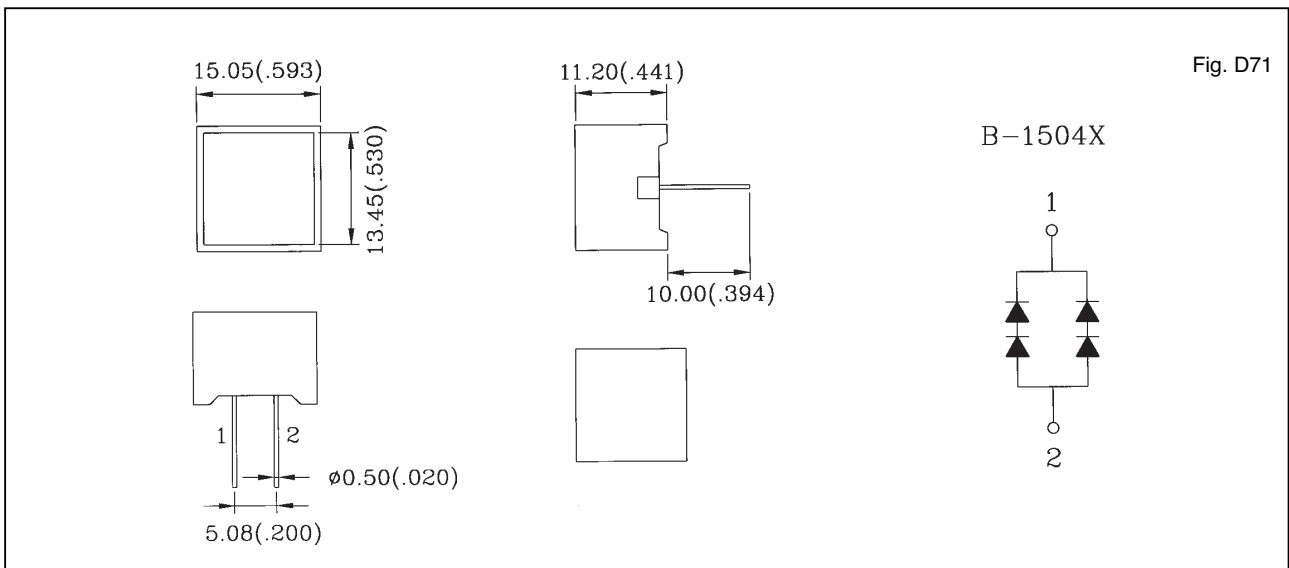
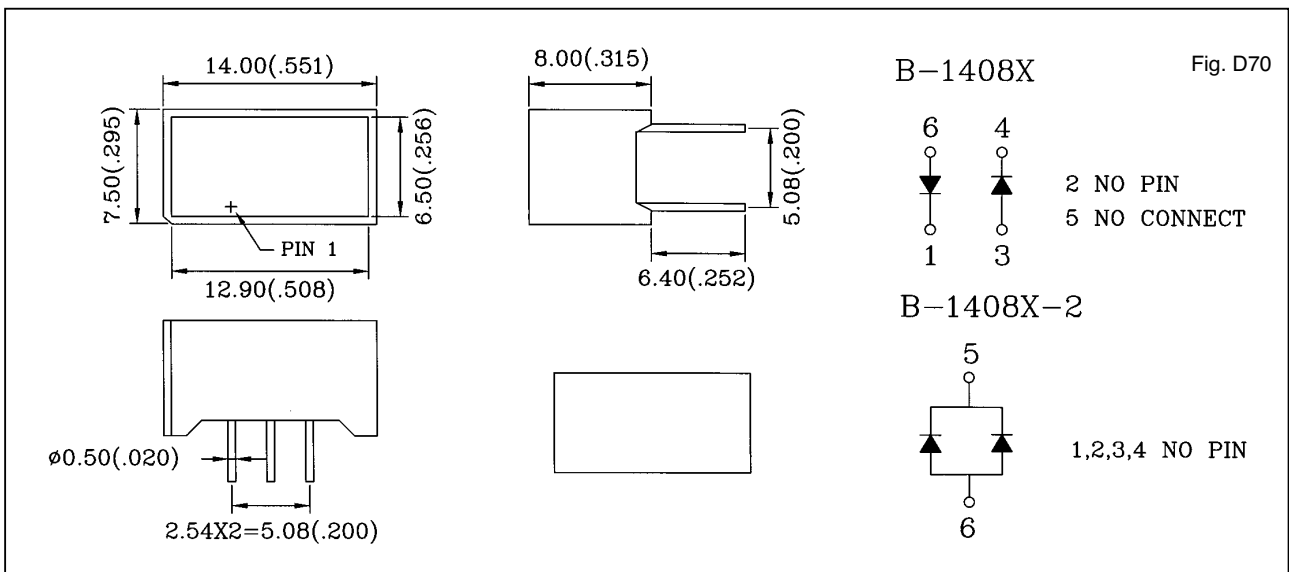
**B-1D2DX, B-1202X LIGHT BAR**

Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-1D2DE	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	12.0	D68
	B-1D2DG	GaP	Green	565	2.2	2.8	10.0	
	B-1D2DY	GaAsP/GaP	Yellow	585	2.1	2.8	10.0	
	B-1D2DSR	GaAlAs	Super Red	660	1.8	2.2	20.0	
	B-1202E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	12.0	D69
	B-1202G	GaP	Green	565	2.2	2.8	10.0	
	B-1202Y	GaAsP/GaP	Yellow	585	2.1	2.8	10.0	
	B-1202SR	GaAlAs	Super Red	660	1.8	2.2	20.0	




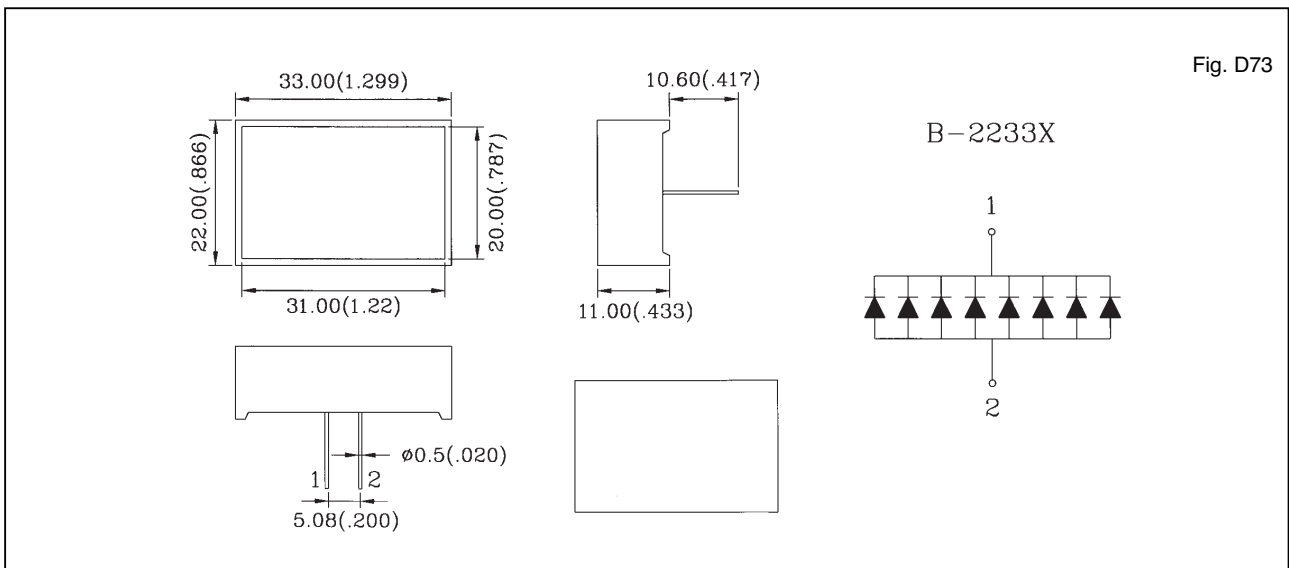
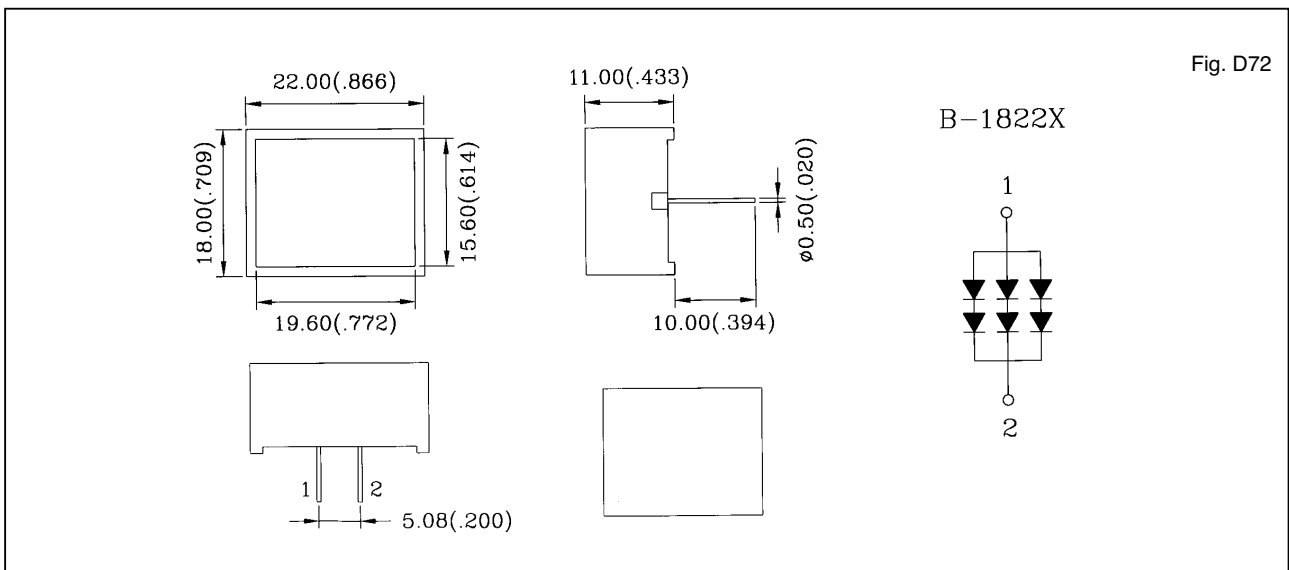
1. All dimension are in millimeters (inches).
2. Tolerance is  $\pm 0.25$  mm (0.01") unless otherwise specified.

Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		Iv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-1408E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	6.0	D70
	B-1408G	GaP	Green	565	2.2	2.8	5.0	
	B-1408Y	GaAsP/GaP	Yellow	585	2.1	2.8	5.0	
	B-1408SR	GaAlAs	Super Red	660	1.8	2.2	12.0	
	B-1504E	GaAsP/GaP	Hi.effi Red	635	4.2	5.6	12.0	D71
	B-1504G	GaP	Green	565	4.4	5.6	10.0	
	B-1504Y	GaAsP/GaP	Yellow	585	4.2	5.6	10.0	
	B-1504SR	GaAlAs	Super Red	660	3.6	4.4	20.0	





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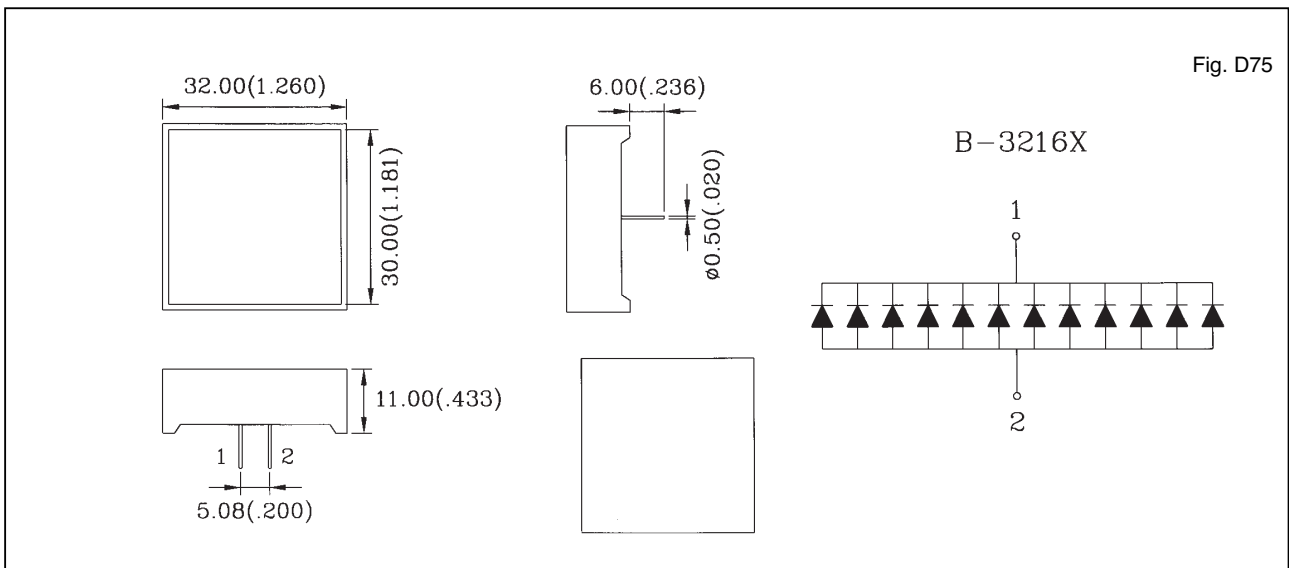
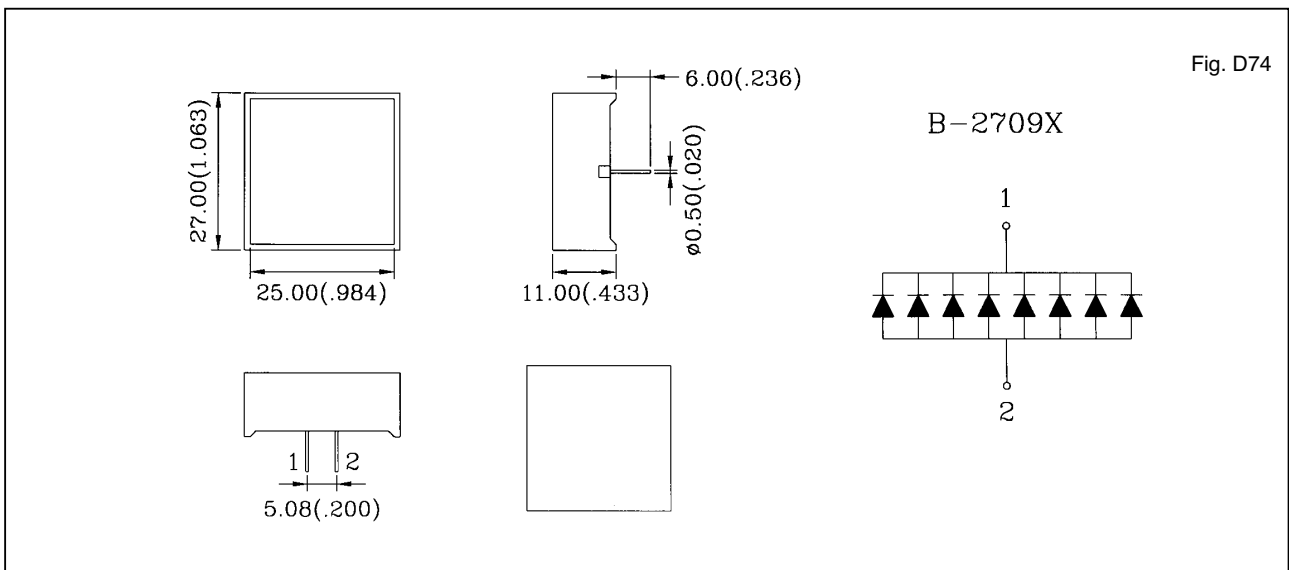
Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-1822E	GaAsP/GaP	Hi.effi Red	635	4.2	5.6	12.0	D72
	B-1822G	GaP	Green	565	4.4	5.6	10.0	
	B-1822Y	GaAsP/GaP	Yellow	585	4.2	5.6	10.0	
	B-1822SR	GaAlAs	Super Red	660	3.6	4.4	20.0	
	B-2233E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	16.0	D73
	B-2233G	GaP	Green	565	2.2	2.8	14.0	
	B-2233Y	GaAsP/GaP	Yellow	585	2.1	2.8	14.0	
	B-2233SR	GaAlAs	Super Red	660	1.8	2.2	32.0	




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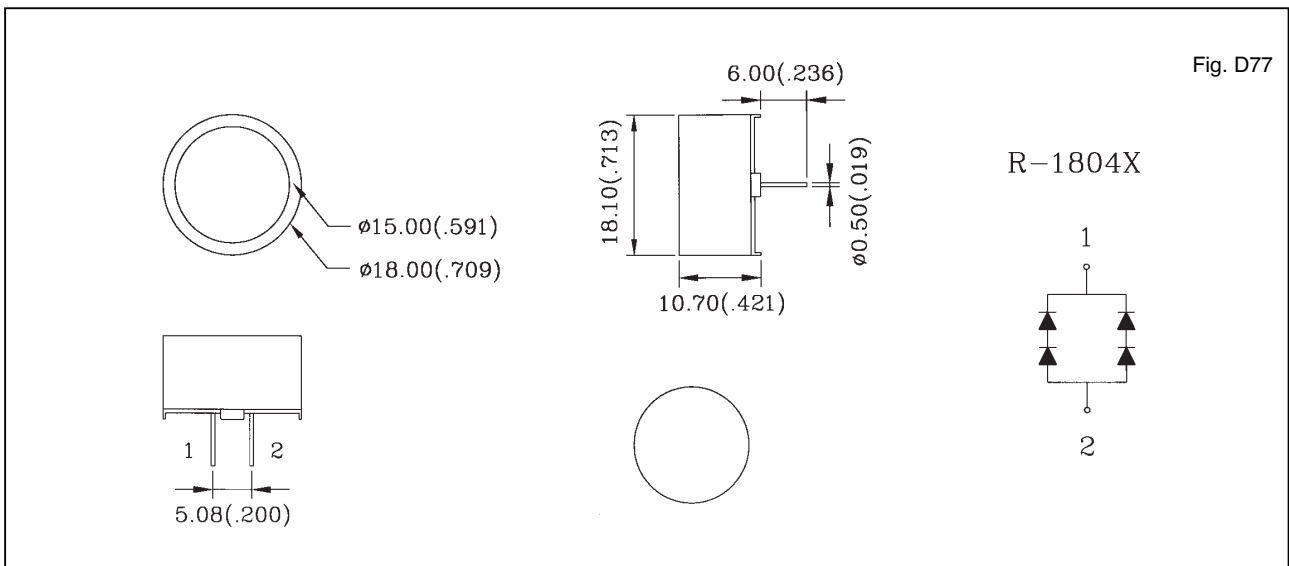
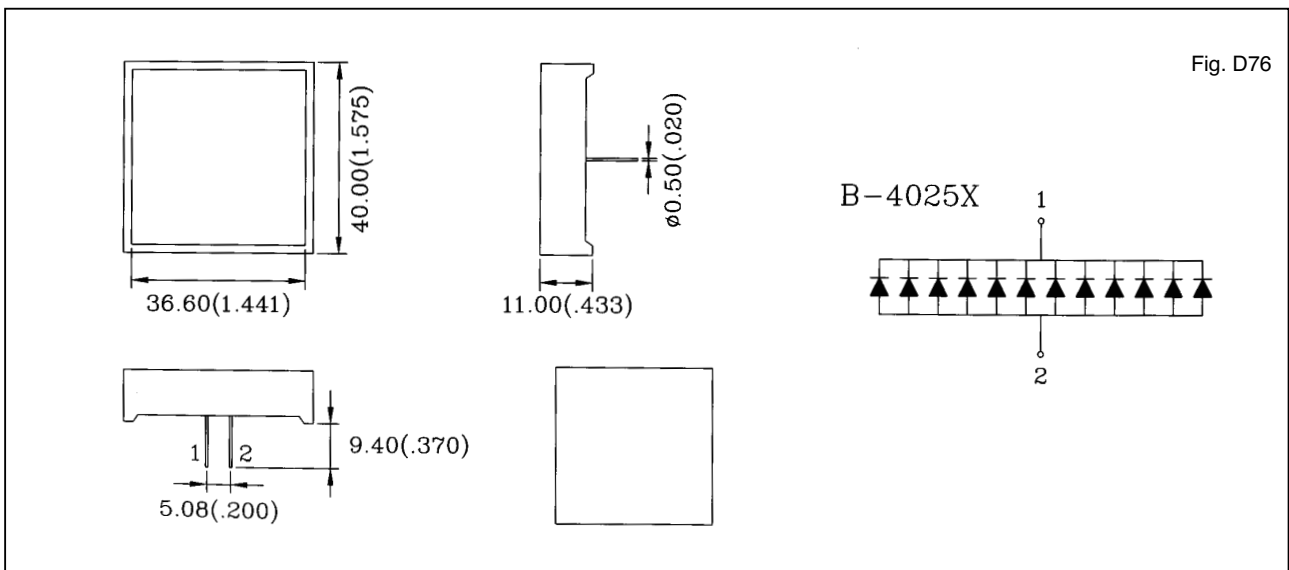
**B-2709X, B-3216X LIGHT BAR**

Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA Typ.	Max.	Iv(mcd)10mA Typ.	
	B-2709E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	16.0	D74
	B-2709G	GaP	Green	565	2.2	2.8	14.0	
	B-2709Y	GaAsP/GaP	Yellow	585	2.1	2.8	14.0	
	B-2709SR	GaAlAs	Super Red	660	1.8	2.2	32.0	
	B-3216E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	24.0	D75
	B-3216G	GaP	Green	565	2.2	2.8	20.0	
	B-3216Y	GaAsP/GaP	Yellow	585	2.1	2.8	20.0	
	B-3216SR	GaAlAs	Super Red	660	1.8	2.2	50.0	





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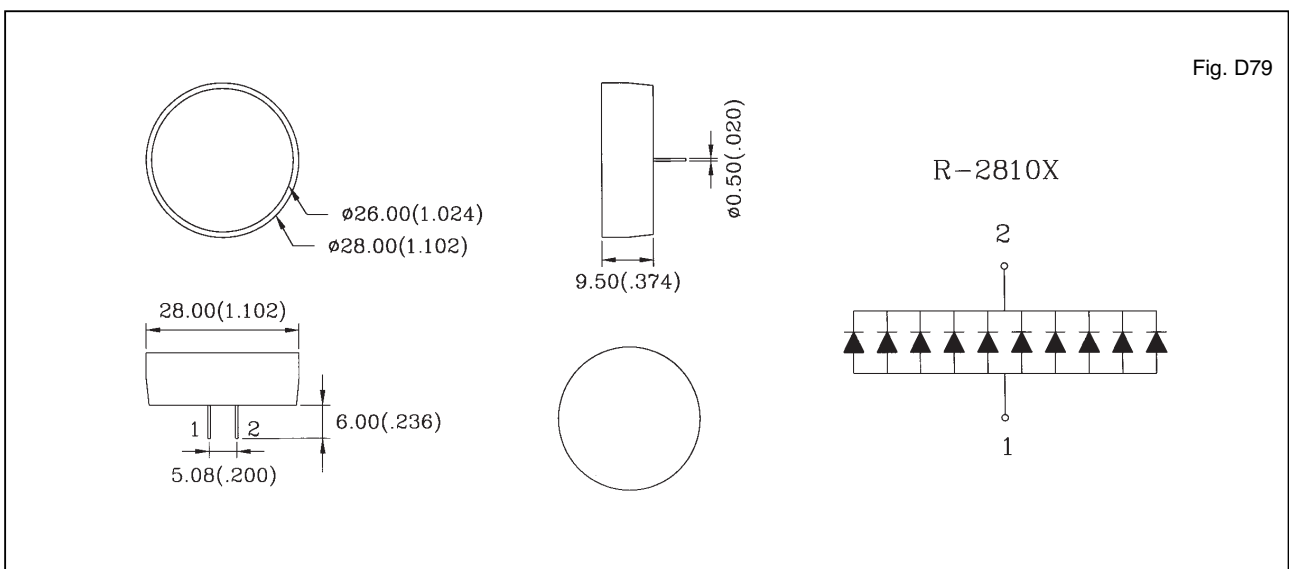
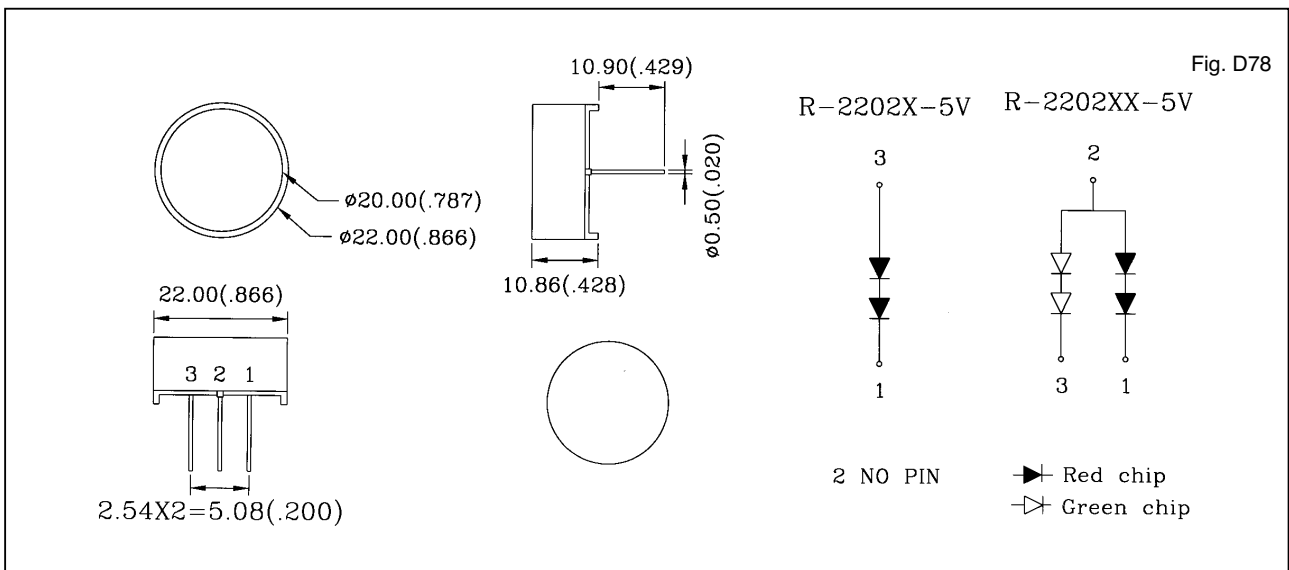
Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-4025E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	36.0	D76
	B-4025G	GaP	Green	565	2.2	2.8	30.0	
	B-4025Y	GaAsP/GaP	Yellow	585	2.1	2.8	30.0	
	B-4025SR	GaAlAs	Super Red	660	1.8	2.2	70.0	
	R-1804E	GaAsP/GaP	Hi.effi Red	635	4.2	5.6	36.0	D77
	R-1804G	GaP	Green	565	4.4	5.6	30.0	
	R-1804Y	GaAsP/GaP	Yellow	585	4.2	5.6	30.0	
	R-1804SR	GaAlAs	Super Red	660	3.6	4.4	70.0	




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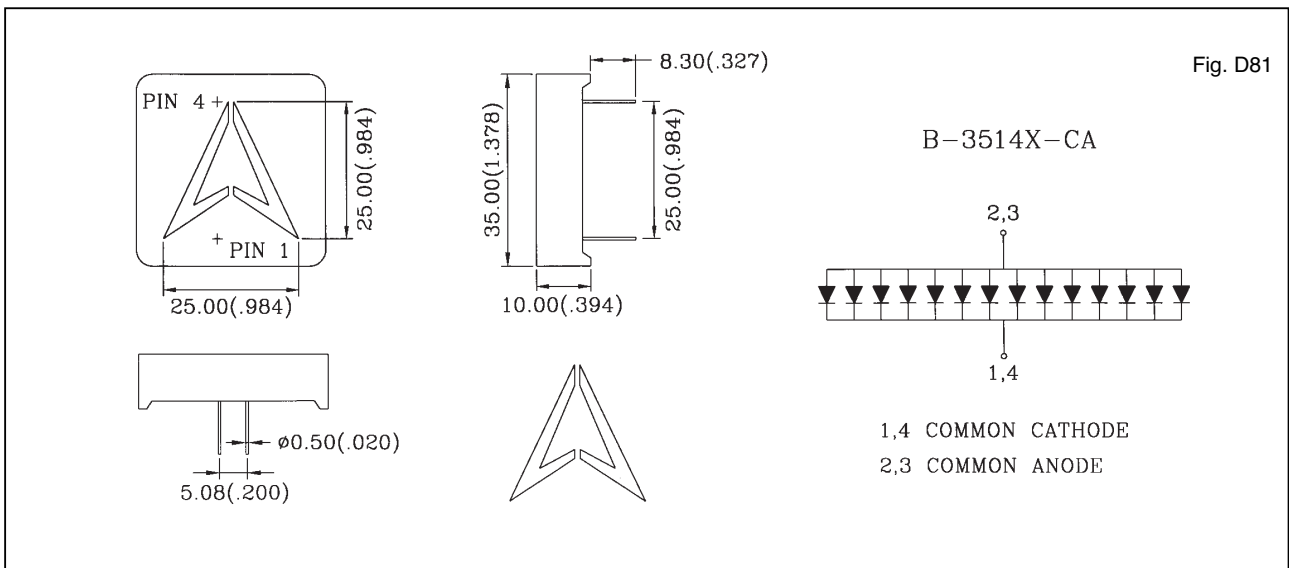
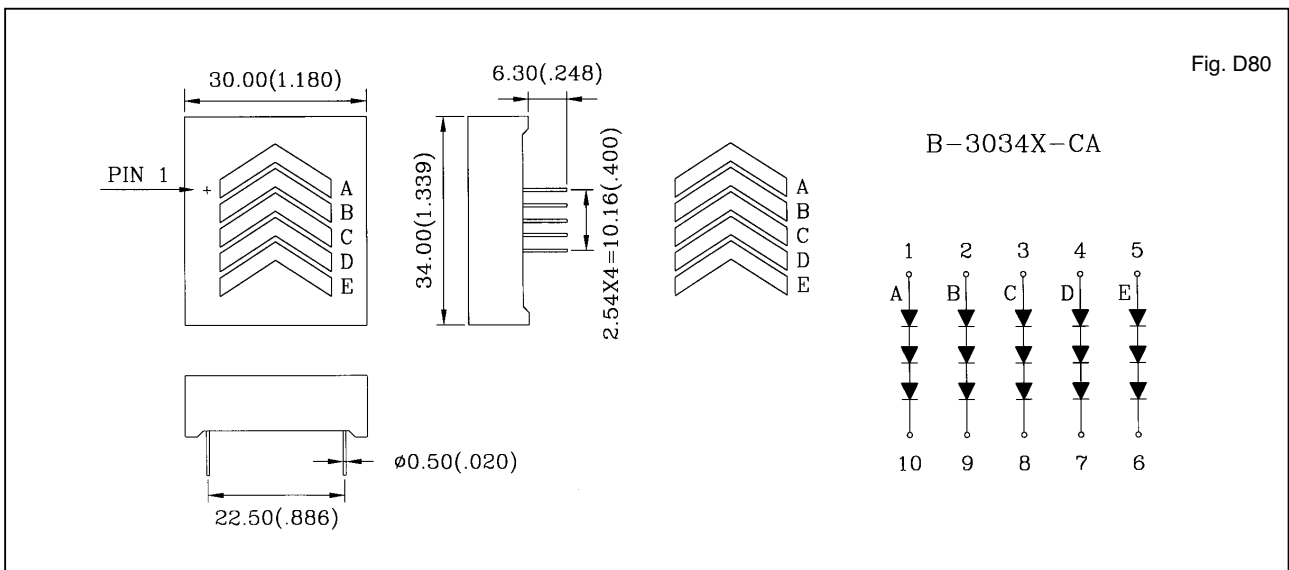


Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	R-2202E-5V	GaAsP/Gap	Hi.effi Red	635	4.2	5.6	20.0	D78
	R-2202G-5V	Gap	Green	565	4.4	5.6	18.0	
	R-2202EG-5V	GaAsP/Gap	Hi.effi Red	635	4.0	5.6	20.0	
		Gap	Green	565	4.2	4.4	18.0	
	R-2810E	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	28.0	D79
	R-2810G	GaP	Green	565	2.2	2.8	25.0	
	R-2810Y	GaAsP/GaP	Yellow	585	2.1	2.8	25.0	
	R-2810SR	GaAlAs	Super Red	660	1.8	2.2	60.0	





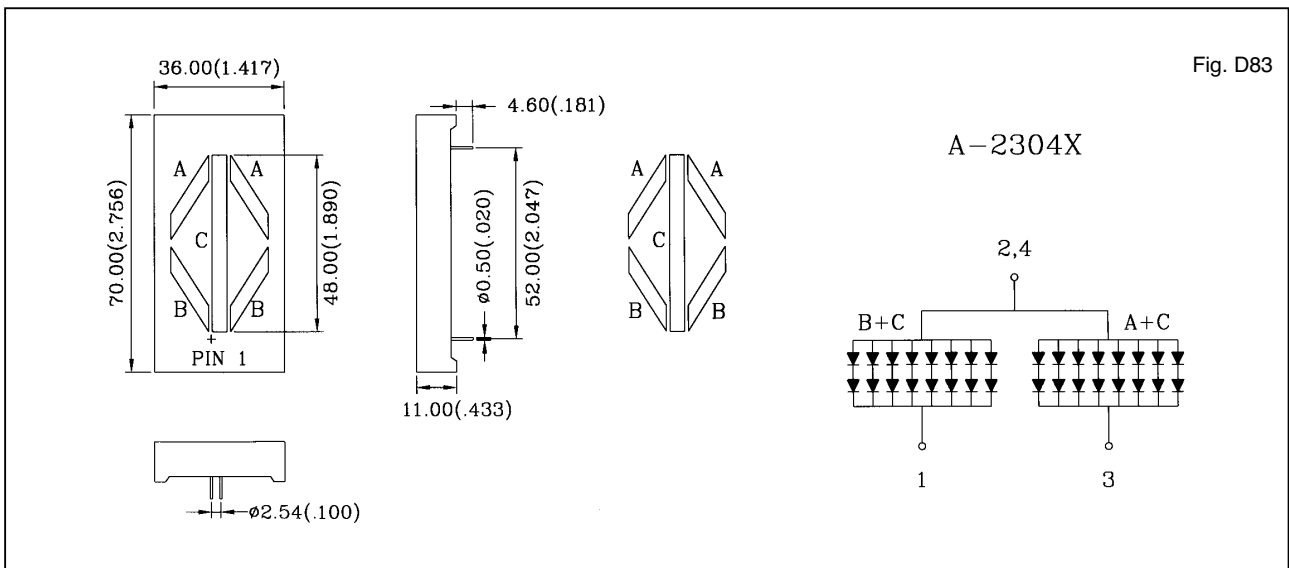
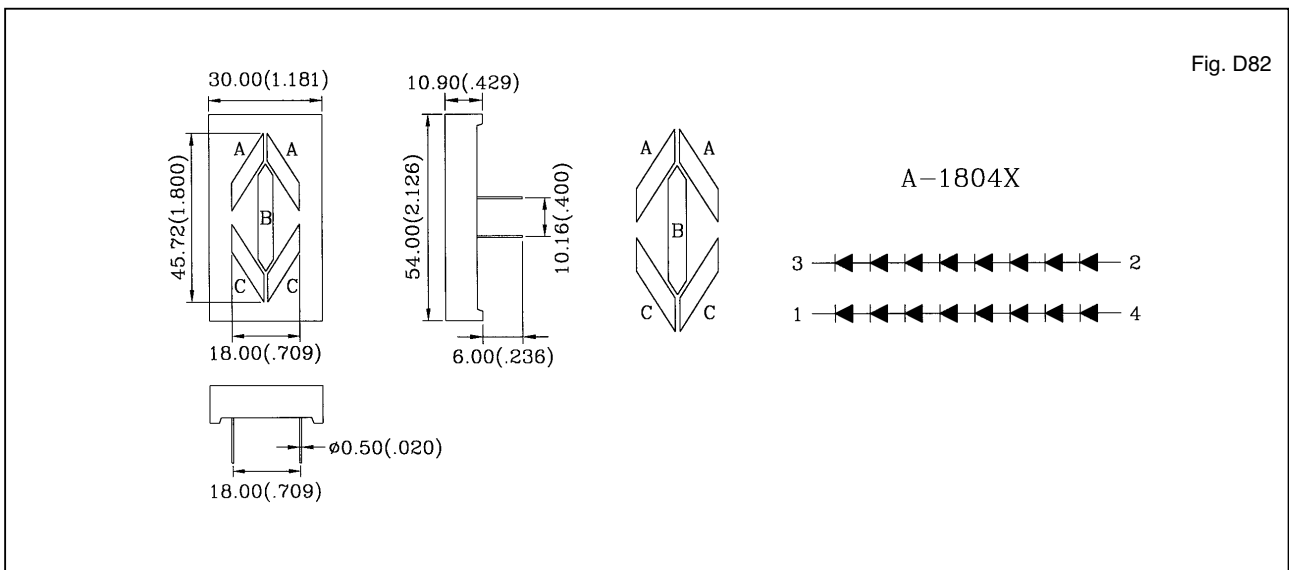
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Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		Iv(mcd)10mA	
					Typ.	Max.	Typ.	
	B-3034E-CA	GaAsP/GaP	Hi.effi Red	635	6.3	8.4	4.8	D80
	B-3034G-CA	GaP	Green	565	6.6	8.4	4.5	
	B-3034Y-CA	GaAsP/GaP	Yellow	585	6.3	8.4	4.3	
	B-3034SR-CA	GaAlAs	Super Red	660	5.4	8.8	12.0	
	B-3514E-CA	GaAsP/GaP	Hi.effi Red	635	2.1	2.8	3.2	D81
	B-3514G-CA	GaP	Green	565	2.2	2.8	3.0	
	B-3514Y-CA	GaAsP/GaP	Yellow	585	2.1	2.8	2.9	
	B-3514SR-CA	GaAlAs	Super Red	660	1.8	2.2	8.0	



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Shape	Part No.	Chip		Wave Length $\lambda_p$ (nm)	Electro-Optical Characteristics			Fig. No.
		Raw Material	Emitted Color		Vf(V)20mA		lv(mcd)10mA	
					Typ.	Max.	Typ.	
	A-1804E	GaAsP/GaP	Hi.effi Red	635	16.8	20.0	12.0	D82
	A-1804G	GaP	Green	565	17.6	20.0	10.0	
	A-1804Y	GaAsP/GaP	Yellow	585	16.8	20.0	10.0	
	A-1804SR	GaAlAs	Super Red	660	14.4	17.6	20.0	
	A-2304E	GaAsP/GaP	Hi.effi Red	635	4.2	5.6	12.0	D83
	A-2304G	GaP	Green	565	4.4	5.6	10.0	
	A-2304Y	GaAsP/GaP	Yellow	585	5.6	5.6	10.0	
	A-2304SR	GaAlAs	Super Red	660	3.6	4.4	20.0	



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