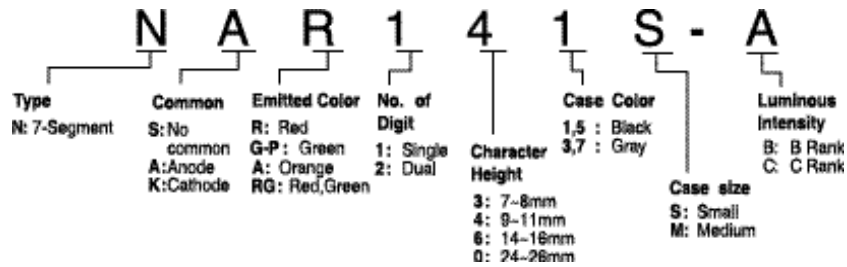


SUPER BRIGHT LED NUMERIC DISPLAY (SEVEN SEGMENT DISPLAY)

Stanley's Numeric Displays which incorporate super-bright LEDs produce vivid, brilliant displays. Available colors are red, pure green, green, yellow and orange. Display types include segment type (character heights 7.5mm to 25mm) and the alpha-numeric type (character heights 25mm and 51mm). These are suitable for dynamic drive due to the low-current drive characteristics.

Description of Part Number



Characteristics by Color

Ta=25°C

Size	Part No.	Material Emitted Color	Chip/ Segment	Absolute Maximum Rating						Electro-Optical Characteristics							Derating
				Power Dissipation P d	Forward Current I _F	Peak Forward Current I _{FM}	Reverse Voltage V _R	Operating Temp T _{opr}	Storage Temp T _{stg}	Forward Voltage			Reverse Current		Wavelength λ _p		
										TYP.	V _F MAX.	I _F	MAX.	V _R	TYP	I _F	
7.5	N□R13□	GaP(Red)	1	37.5	15	60	4	-30~+85	-30~+85	2.0	2.5	10	100	4	700	10	0.25
	N□R13□S, ME	GaAlAs(Red)	1	40	20	80	4	-30~+85	-30~+85	1.7	2.0	10	100	4	660	10	0.33
	N□G13□P, SP, MP	GaP(Green)	1	48	20	80	4	-30~+85	-30~+85	2.0	2.4	10	100	4	565	10	0.33
	N□13□S, S, M	GaAsP(Orange)	1	48	20	80	4	-30~+85	-30~+85	2.0	2.4	10	100	4	605	10	0.33
10	N□R14□, N□R24	GaAlAs(Red)	1	60	30	120	4	-40~+85	-40~+85	1.7	2.0	20	100	4	660	20	0.41
	N□R14□S	GaAlAs(Red)	1	40	20	80	4	-30~+85	-30~+85	1.7	2.0	10	100	4	660	10	0.33
	N□G14□P, N□G24P	GaP(Green)	1	63	25	100	4	-40~+85	-40~+85	2.2	2.5	20	100	4	565	20	0.34
	N□G14□SP	GaP(Green)	1	48	20	80	4	-40~+85	-30~+85	2.0	2.4	10	100	4	565	10	0.33
	N□A14□, N□A24□	GaAsP(Orange)	1	63	25	100	4	-40~+85	-40~+85	2.2	2.5	20	100	4	605	20	0.34
	N□A14□S	GaAsP(Orange)	1	48	20	80	4	-30~+85	-30~+85	2.0	2.4	10	100	4	605	10	0.33
	NARG14□	GaAlAs(Red)	1	36	15	70	4	-30~+70	-30~+80	1.7	2.0	10	20	4	660	10	0.22
		GaP(Green)								2.0	2.4	10			570	10	
15	N□R16□, N□R26□	GaAlAs(Red)	1	60	30	120	4	-40~+85	-40~+85	1.7	2.0	20	100	4	660	20	0.41
	N□G16□P, N□G26□P	GaP(Green)	1	63	25	100	4	-40~+85	-40~+85	2.2	2.5	20	100	4	565	20	0.34
	N□A16□, N□A26□	GaAsP(Orange)	1	63	25	100	4	-40~+85	-40~+85	2.2	2.5	20	100	4	605	20	0.34
	NARG16□	GaAlAs(Red)	1	36	15	70	4	-30~+70	-30~+80	1.7	2.0	10	20	4	660	10	0.22
		GaP(Green)								2.0	2.4	10			570	10	
25	N□R10□	GaAlAs(Red)	2	120	30	120	4	-20~+85	-20~+85	3.4	4.0	20	100	8	660	20	0.41
	N□G10□P	GaP(Green)	2	126	25	100	4	-20~+85	-20~+85	4.4	5.0	20	100	8	565	20	0.34
	N□A10□	GaAsP(Orange)	2	126	25	100	4	-20~+85	-20~+85	4.4	5.0	20	100	8	605	20	0.34
	NARG10□	GaAlAs(Red)	2	80	20	❖ ₁ 40	4	-30~+70	-30~+80	3.4	4.0	10	100	4	660	10	0.33
		GaP(Green)								4.0	4.8	10			570	10	
mm	Units			mW	mA	mA	V	°C			V	mA	nA	V	nm	mA	mA/°C

- Number of chips per segment
- Ratings and specifications are for one segment
- When both colors of a bi-color LED are driven simultaneously, the rating of NARG types are the total of the Pd, 1F and 1FM values.
- ❖ 1 : NARG 10□ type in dynamic drive has a duty cycle of 1/2 and f=500Hz and the others have a duty cycle of 1/5 and f =1 kHz.

SUPER BRIGHT LED NUMERIC DISPLAY

7.5mm Type

Ta=25°C

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity Iv					fig.
		Anode Common	Cathode Common		MIN.	Rank B TYP.	MIN.	Rank C TYP.	If	
7.0 X 11.0		NAR131S/133S	NKR131S/133S	Red	1.4	2.8	2.8	5.6	10	1
		NAR131SP/133SP	NKG131SP/133SP	Green	1	2	—	—	10	
		NAA131S/133S	NKA131S/133S	Orange	0.6	1.2	—	—	10	
10.0 X 15.0		NAR131ME/133ME	NKR131ME/133ME	Red	1.2	2.4	—	—	10	2
		NAG131MP/133MP	NKG131MP/133MP	Green	0.6	1.2	—	—	10	
		NAA131M/133M	NKA131M/133M	Orange	0.8	1.6	—	—	10	
10.0 X 19.0		NAR131/133	NKR131/133	Red	0.3	0.6	—	—	10	3
		NAG131P/133P	NKG131P/133P	Green	0.6	1.2	—	—	10	
		NAA131/133	NKA131/133	Orange	0.8	1.6	—	—	10	
mm		Units			mcd					mA

Package Dimensions

unit : mm

Tolerance : ±0.25mm

fig.1

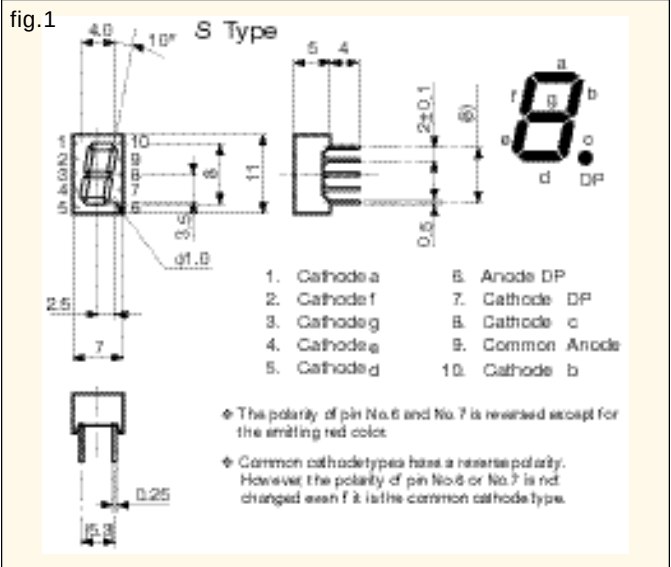


fig.2

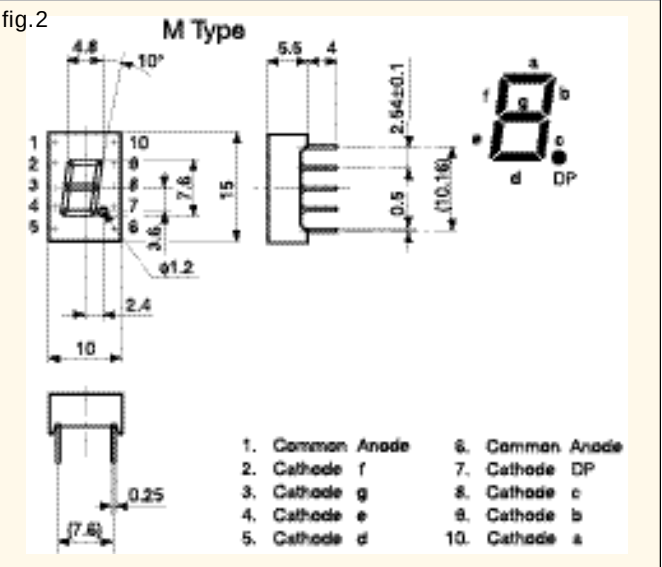
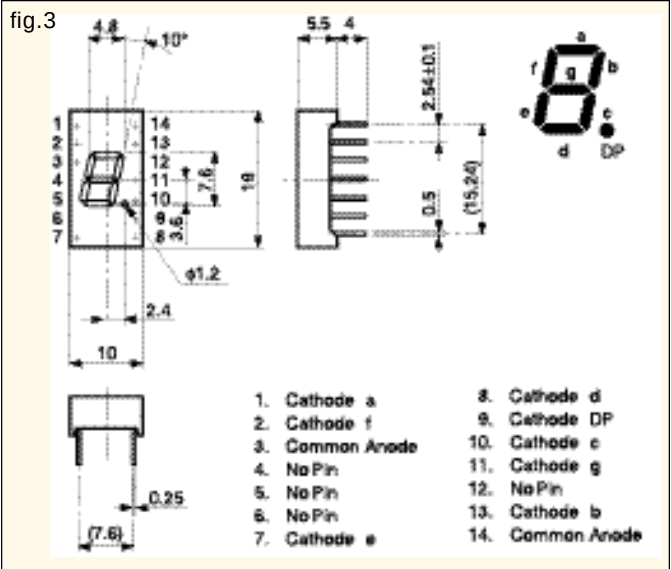


fig.3



• Common cathode types shown in fig. 2 and 3 have a reverse polarity.

SUPER BRIGHT LED NUMERIC DISPLAY

10mm Type

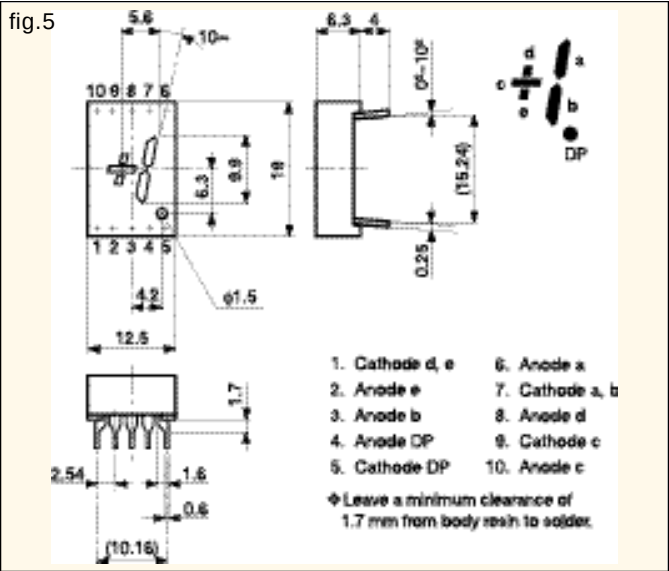
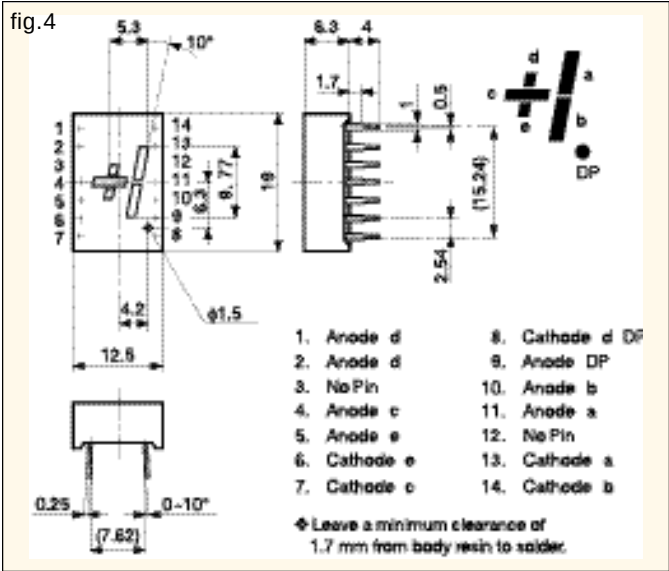
Ta=25°C

Case Size (WXH)	Shape	Part No.	Emitted Color	Luminous Intensity Iv						fig.
				MIN.	Rank B	TYP.	MIN.	Rank C	TYP.	
12.5 X 19.0		NSR141/143	Red	4	8	8	11	20		4
		NSG141P/143P	Green	1	2	—	—	20		
		NSA141/143	Orange	3	6	—	—	20		
12.5 X 19.0		NSR145/147	Red	3.2	6.4	6.4	8.8	20		5
		NSG145P/147P	Green	0.8	1.6	—	—	20		
		NSA145/147	Orange	2.4	4.8	—	—	20		
mm		Units		mcd						mA

Package Dimensions

unit : mm

Tolerance : ±0.25mm



SUPER BRIGHT LED NUMERIC DISPLAY

10mm Type

Ta=25°C

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity I _v					fig.
		Anode Common	Cathode Common		Rank B		Rank C		I _F	
9.6 X 13.0	Arrow feather type	NAR141S/143S	NKR141S/143S	Red	MIN. 1.6	TYP. 3.2	MIN. 3.2	TYP. 6.4	10	6
		NAR141SP/143SP	NKG141SP/143SP	Green	0.6	1.2	—	—	10	
		NAA141S/143S	NKA141S/143S	Orange	0.8	1.6	—	—	10	
12.5 X 19.0	Square shape type	NAR141/143	NKR141/143	Red	4	8	8	11	20	7
		NAG141P/143P	NKG141P/143P	Green	1	2	—	—	20	
		NAA141/143	NKA141/143	Orange	3	6	—	—	20	
12.5 X 19.0	Arrow feather type	NAR145/147	NKR145/147	Red	3.2	6.4	6.4	8.8	20	8
		NAG145P/147P	NKG145P/147P	Green	0.8	1.6	—	—	20	
		NAA145/147	NKA145/147	Orange	2.4	4.8	—	—	20	
mm		Units			mcd					mA

Package Dimensions

unit : mm

Tolerance : ±0.25mm

fig.6

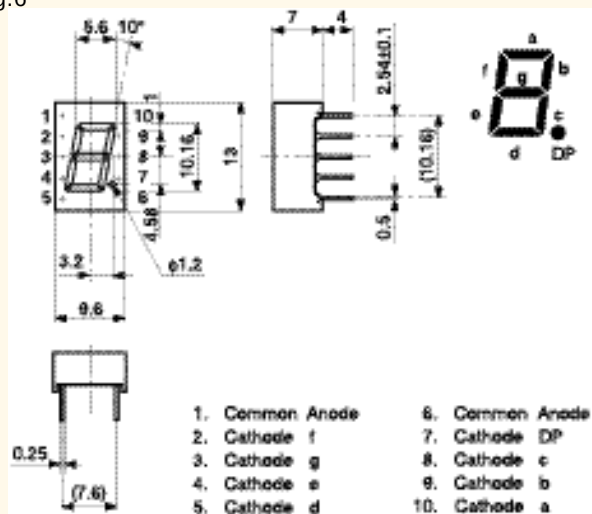


fig.7

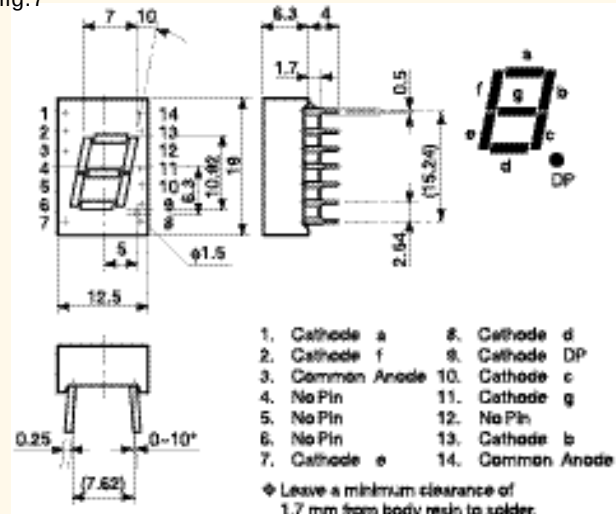
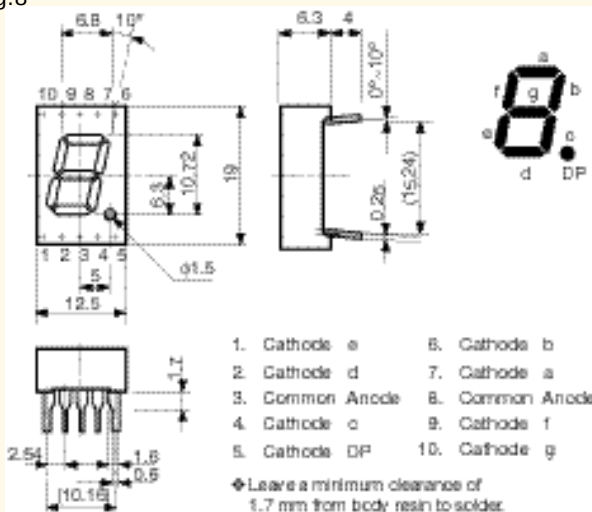


fig.8



• Common cathode types shown in fig. 6, 7, and 8 have a reverse polarity.

SUPER BRIGHT LED NUMERIC DISPLAY

10mm Type

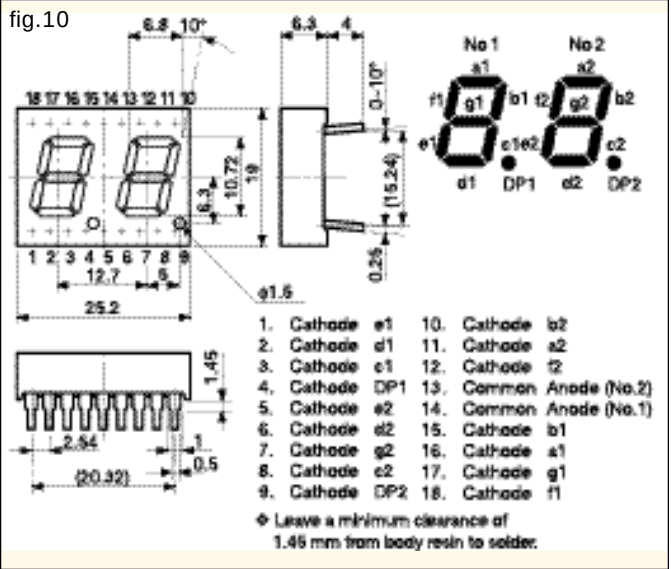
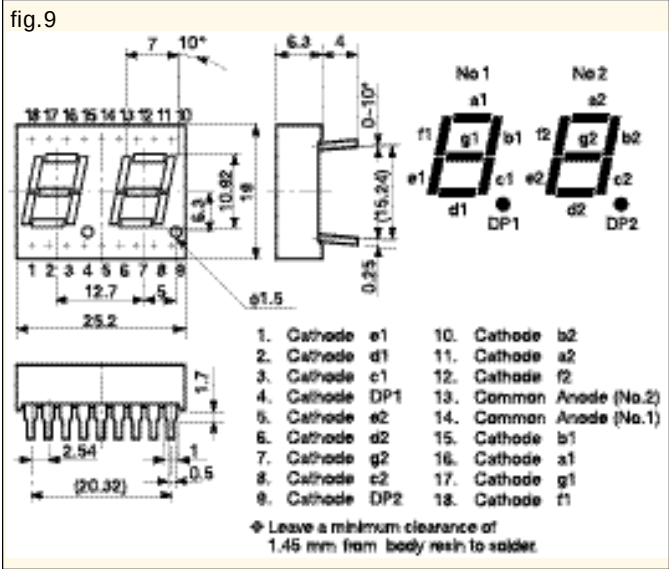
Ta=25°C

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity Iv					fig.
		Anode Common	Cathode Common		Rank B		Rank C		I _F	
25.2 X 19.0		NAR241/243	NKR241/243	Red	4	8	8	11	20	9
		NAG241P/243P	NKG241P/243P	Green	1	2	—	—	20	
		NAA241/243	NKA241/243	Orange	3	6	—	—	20	
25.2 X 19.0		NAR245/247	NKR245/247	Red	3.2	6.4	6.4	8.8	20	10
		NAG245P/247P	NKG245P/247P	Green	0.8	1.6	—	—	20	
		NAA245/247	NKA245/247	Orange	2.4	4.8	—	—	20	
mm		Units			mcd					mA

Package Dimensions

unit : mm

Tolerance : ±0.25mm



• Common cathode types shown in fig. 9 and 10 have a reverse polarity.

SUPER BRIGHT LED NUMERIC DISPLAY

15mm Type

Ta=25°C

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity Iv					fig.
		Anode Common	Cathode Common		MIN.	Rank B TYP.	MIN.	Rank C TYP.	If	
12.5 X 19.0		NSR161/163		Red	6	12	12	15	20	11
		NSG161P/163P		Green	2	4	—	—	20	
		NSA161/163		Orange	4	8	—	—	20	
12.5 X 19.0		NAR161/163	NKR161/163	Red	6	12	12	15	20	12
		NAG161P/163P	NKG161P/163P	Green	2	4	—	—	20	
		NAA161/163	NKA161/163	Orange	4	8	—	—	20	
25.2 X 19.0		NAR261/263	NKR261/263	Red	6	12	12	15	20	13
		NAG261P/263P	NKG261P/263P	Green	2	4	—	—	20	
		NAA261/263	NKA261/263	Orange	4	8	—	—	20	
mm		Units			mcd					mA

Package Dimensions

unit : mm

Tolerance : ±0.25mm

fig.11

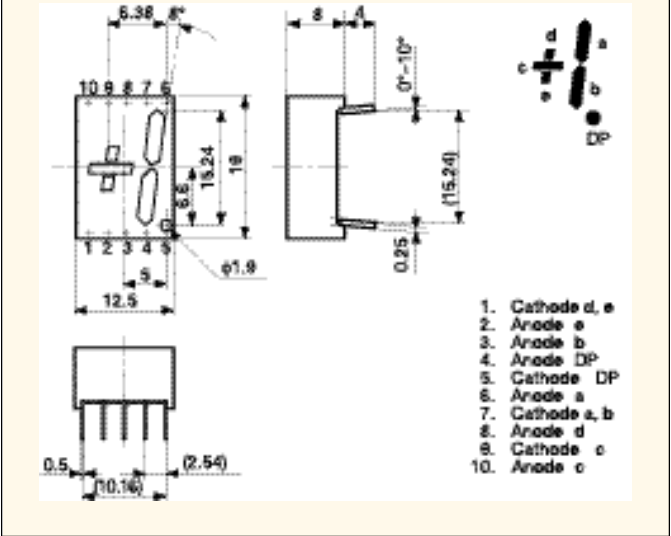


fig.12

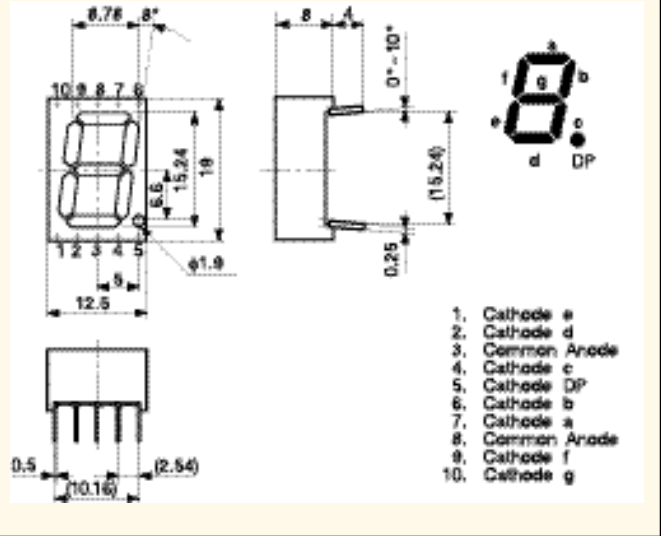
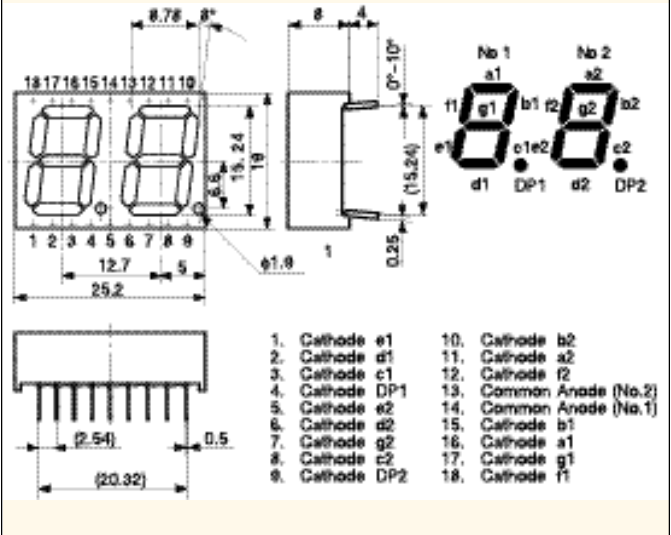


fig.13



• Common cathode types shown in fig. 12 and 13 have a reverse polarity.

SUPER BRIGHT LED NUMERIC DISPLAY

25mm Type

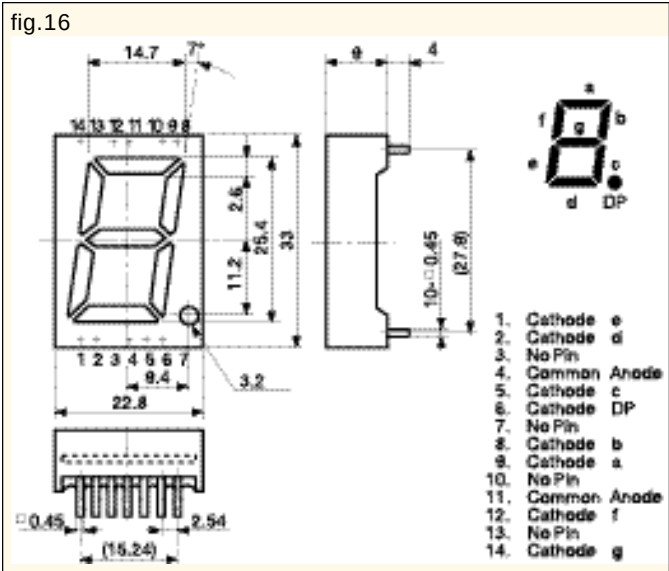
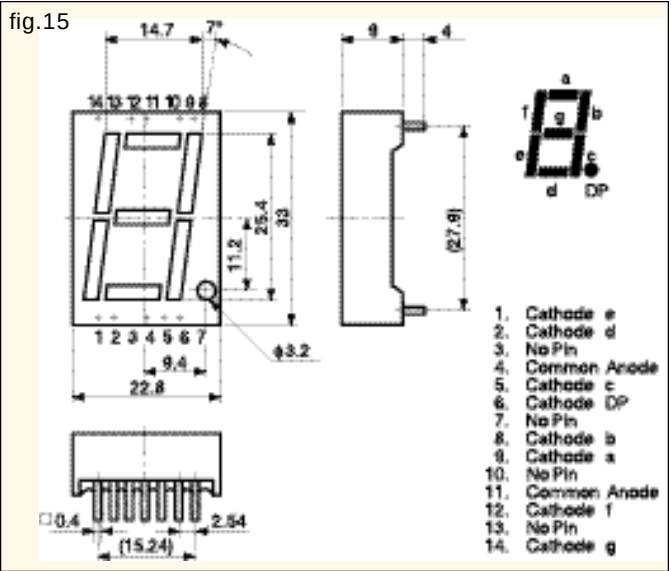
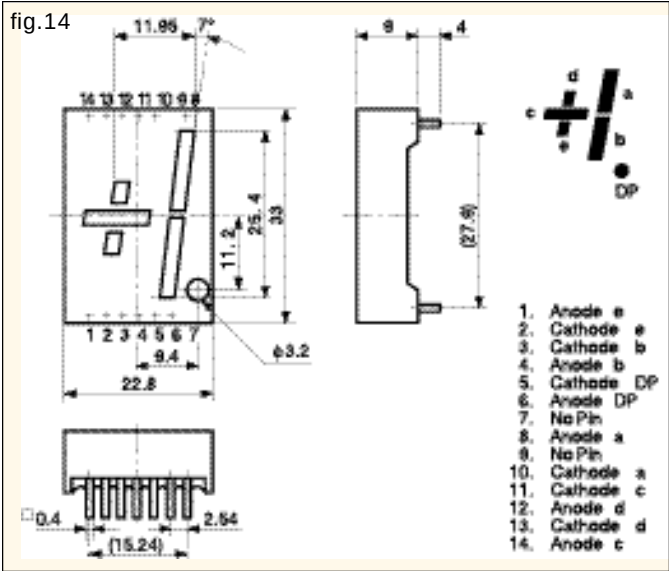
Ta=25°C

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity Iv					fig.
		Anode Common	Cathode Common		Rank B		Rank C		If	
MIN.	TYP.	MIN.	TYP.							
22.8 X 33.0		NSR101/103		Red	10	20	20	25	20	14
		NSG101P/103P		Green	4	8	—	—	20	
		NSA101/103		Orange	8	16	—	—	20	
22.8 X 33.0		NAR101/103	NKR101/103	Red	10	20	20	25	20	15
		NAG101P/103P	NKG101P/103P	Green	4	8	—	—	20	
		NAA101/103	NKA101/103	Orange	8	16	—	—	20	
22.8 X 33.0		NAR105/107	NKR105/107	Red	10	20	20	25	20	16
		NAG105P/107P	NKG105P/107P	Green	4	8	—	—	20	
		NAA105/107	NKA105/107	Orange	8	16	—	—	20	
mm		Units			mcd				mA	

Package Dimensions

unit : mm

Tolerance : ±0.25mm



• Common cathode types shown in fig. 15 and 16 have a reverse polarity.

$T_a = 25^\circ\text{C}$

Case Size (WXH)	Shape	Part No.		Emitted Color	Luminous Intensity Iv			fig.
		Anode Common	Cathode Common		MIN.	TYP.	I _F	
10.0 X 19.0	Arrow feather type 	NARG141/143	NKRG141/143	Red	1.2	2.4	10	17
				Green	1.2	2.4	10	
12.5 X 19.0	Arrow feather type 	NARG161/163	NKRG161/163	Red	1.2	2.4	10	18
				Green	1.2	2.4	10	
22.8 X 33.0	Arrow feather type 	NARG105/107		Red	2	4	10	19
				Green	2	4	10	
mm	Units				mcd		mA	

Tolerance : $\pm 0.25\text{mm}$

fig.17

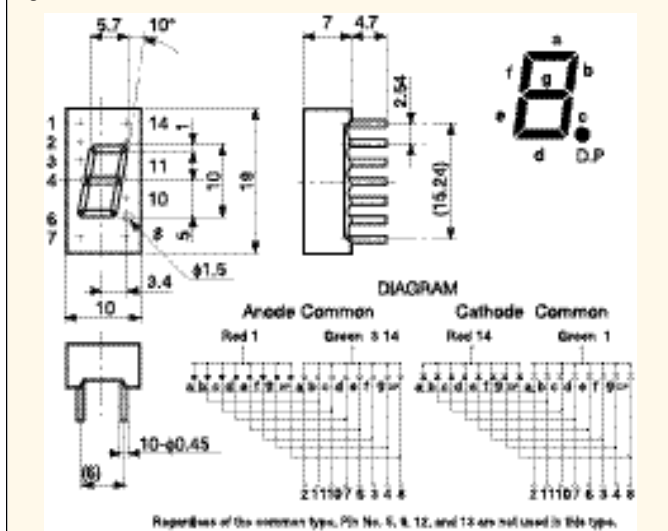


fig.18

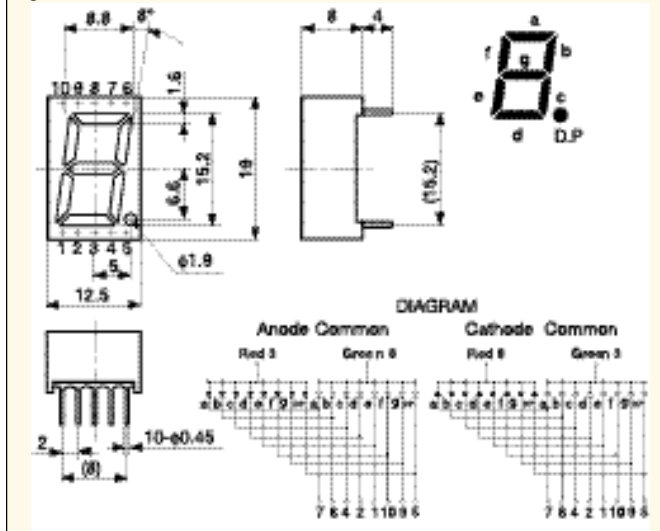


fig.19

