

**Series 153 - 1206 - Bipolar bicolor**

**thin film technology**

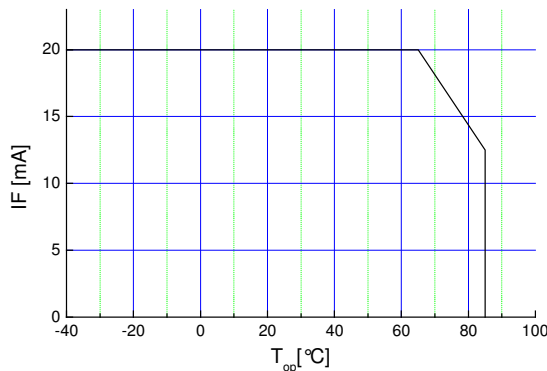
**Features**

- size 1206: 3.2(L) x 1.6(W) x 1.2(H) mm
- circuit substrate: glass laminated epoxy
- devices are ROHS conform
- lead free solderable. soldering pads: gold plated
- taped in 8 mm blister tape. cathode of defined color is placed to transporting perforation
- all devices sorted into luminous intensity classes
- taping: face-up (TU) or face-down (TD) possible
- high luminous intensity types
- on request sorted in color classes



**Absolute Maximum Ratings**

| $I_{F, max}$ [mA] | $I_{F, P}$ [mA]<br>$tp \leq 100 \mu s$<br>$\tau=1: 10$ | $V_R$ [V] | $I_{R, max}$ [ $\mu A$ ] | Thermal resistance<br>$R_{thJA}$ [K / W] | $T_{Op}$ [ $^{\circ}C$ ] | $T_{St}$ [ $^{\circ}C$ ] |
|-------------------|--|-----------|--------------------------|--|--------------------------|--------------------------|
| 20                | 70   |           |                          | 450                                      | -40...85                 | -40...85                 |



Maximal forward current (DC) characteristic

electrostatic discharge classification (MIL-STD-883E)

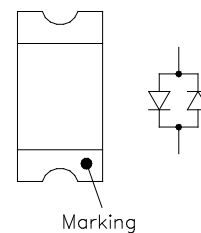
class 1

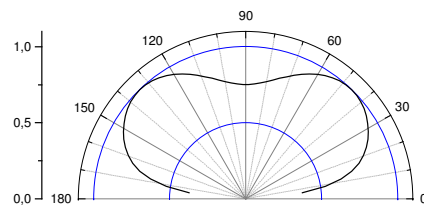
**Electro-Optical Characteristics**

| Type              | Combination    | Marking at cathode |
|-------------------|----------------|--------------------|
| OLS-153 MSD/GC525 | red / green    | green              |
| OLS-153 MY/GC525  | yellow / green | green              |
| OLS-153 MSD/MY    | red / yellow   | yellow             |

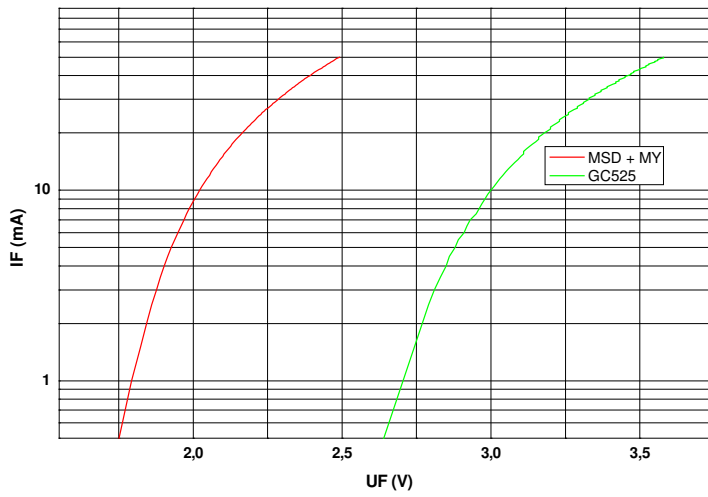
Other combinations are possible also

| Emitting color | Measurement $I_F$ [mA] | $V_F$ [V] |     | $\lambda_d / \lambda_p^*$ [nm] | $I_V$ [mcd] |     |
|----------------|------------------------|-----------|-----|--------------------------------|-------------|-----|
|                |                        | typ       | max |                                | min         | typ |
| GC525 - green  | 20                     | 3.3       | 4.0 | 525                            | 280         | 400 |
| MY - yellow    | 20                     | 2.1       | 2.6 | 589                            | 250         | 400 |
| MSD - red      | 20                     | 2.1       | 2.6 | 624                            | 250         | 400 |

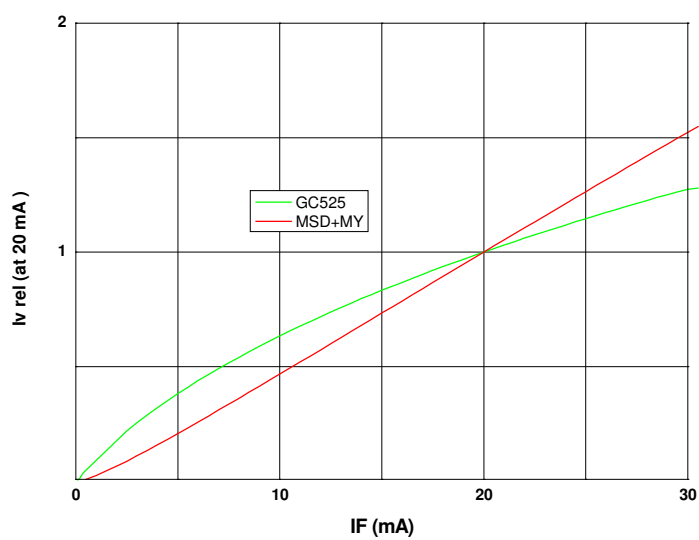




view angle

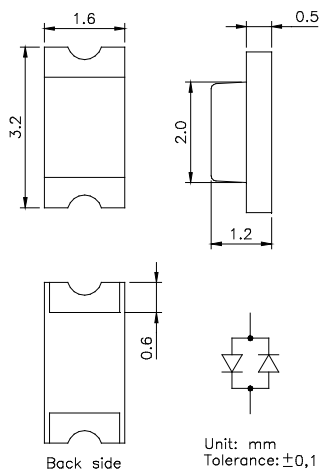


$U_F - I_F$   
characteristic

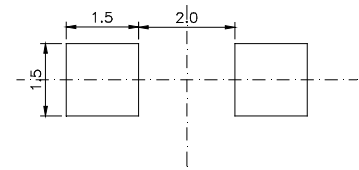


$I_F - I_{v,rel}$   
characteristic

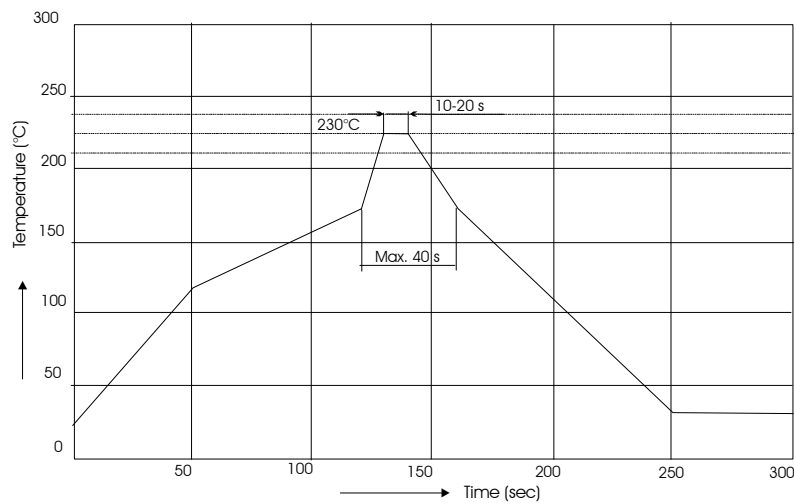
**Outline Drawing**



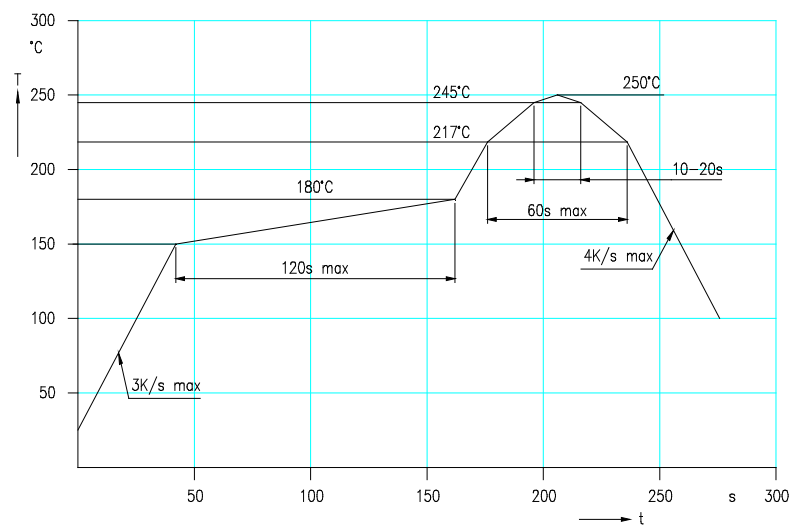
**Recommended Soldering Patterns**



**Soldering Conditions**



IR reflow soldering profile



IR reflow soldering profile for lead free soldering

Manual soldering: max power of iron 25W/ 3s/ 300°C

## Ordering Code For Parts

Series                      Color                      Encapsulation                      Packaging

OLS-153

-    ???????

-    ?

-    ?

TU - taped up  
TD - taped down

CD - colored diffused (standard) possible for red.  
green. blue

XD - uncolored diffused

C - colored clear possible for red. green. blue

X - uncolored clear

Type definition, e.g. OLS-153 MSD/GC525-CD-TU

## LED Luminous Intensity Groups And Subgroups [ mcd ]

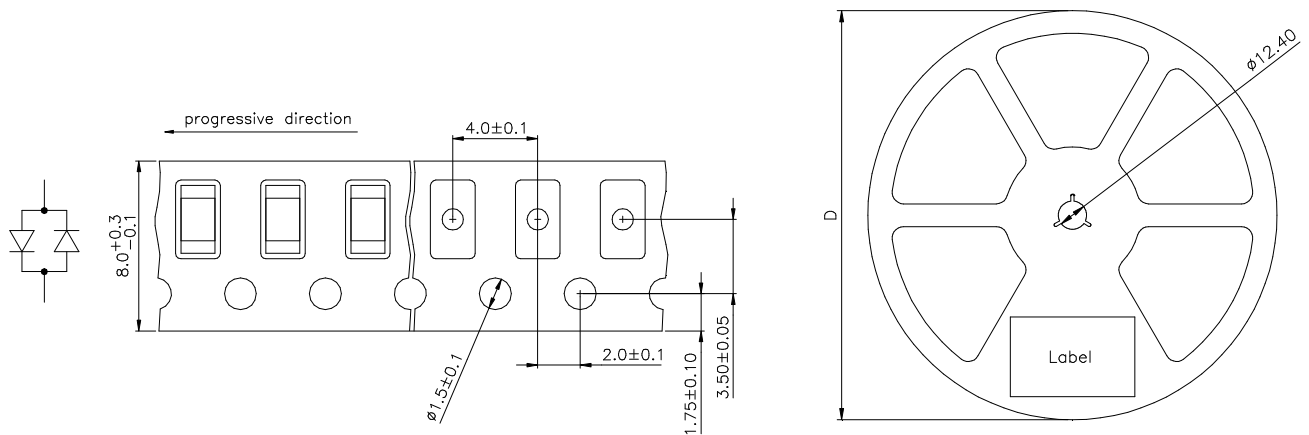
(general information – not this device specific)

|    |       |   |       |     |       |   |       |     |      |   |      |
|----|-------|---|-------|-----|-------|---|-------|-----|------|---|------|
| C: | 0.28  | - | 0.45  | C1: | 0.28  | - | 0.36  | Q1: | 71   | - | 90   |
| D: | 0.45  | - | 0.71  | C2: | 0.36  | - | 0.45  | Q2: | 90   | - | 112  |
| E: | 0.71  | - | 1.12  | D1: | 0.45  | - | 0.56  | R1: | 112  | - | 140  |
| F: | 1.12  | - | 1.80  | D2: | 0.56  | - | 0.71  | R2: | 140  | - | 180  |
| G: | 1.80  | - | 2.80  | E1: | 0.71  | - | 0.90  | S1: | 180  | - | 224  |
| H: | 2.80  | - | 4.50  | E2: | 0.90  | - | 1.12  | S2: | 224  | - | 280  |
| J: | 4.50  | - | 7.10  | F1: | 1.12  | - | 1.40  | T1: | 280  | - | 355  |
| K: | 7.10  | - | 11.20 | F2: | 1.40  | - | 1.80  | T2: | 355  | - | 450  |
| L: | 11.20 | - | 18.00 | G1: | 1.80  | - | 2.24  | U1: | 450  | - | 560  |
|    |       |   |       | G2: | 2.24  | - | 2.80  | U2: | 560  | - | 710  |
| M: | 18    | - | 28    | H1: | 2.80  | - | 3.55  | V1: | 710  | - | 900  |
| N: | 28    | - | 45    | H2: | 3.55  | - | 4.50  | V2: | 900  | - | 1120 |
| P: | 45    | - | 71    | J1: | 4.50  | - | 5.60  | W1: | 1120 | - | 1420 |
| Q: | 71    | - | 112   | J2: | 5.60  | - | 7.10  | W2: | 1420 | - | 1800 |
| R: | 112   | - | 180   | K1: | 7.10  | - | 9.00  | X1: | 1800 | - | 2250 |
| S: | 180   | - | 280   | K2: | 9.00  | - | 11.20 | X2: | 2250 | - | 2800 |
| T: | 280   | - | 450   | L1: | 11.20 | - | 14.00 | Y1: | 2800 | - | 3550 |
| U: | 450   | - | 710   | L2: | 14.00 | - | 18.00 | Y2: | 3550 | - | 4500 |
| V: | 710   | - | 1120  | M1: | 18.00 | - | 22.40 | Z1: | 4500 | - | 5750 |
| W: | 1120  | - | 1800  | M2: | 22.40 | - | 28.00 | Z2: | 5750 | - | 7100 |
| X: | 1800  | - | 2800  | N1: | 28.00 | - | 35.50 |     |      |   |      |
| Y: | 2800  | - | 4500  | N2: | 35.50 | - | 45.00 |     |      |   |      |
| Z: | 4500  | - | 7100  | P1: | 45.00 | - | 56.00 |     |      |   |      |
|    |       |   |       | P2: | 56.00 | - | 71.00 |     |      |   |      |

**Measured according to CIE 127. All SMD-LEDs are 100% measured and selected on full automated equipment with an accuracy of  $\pm 11$  %.**

**Special service: Brightness selection in sub selections possible.  
Color selection in 3 sub selections possible (each subgroup per reel).**

## Tape And Reel Packing



| D      | Parts/reel |
|--------|------------|
| 180 mm | 3000       |
| 330 mm | 12000      |

**Packing:** The reel is sealed in special plastic bag with integrate ESD protection ( MIL - STD 81705 ) including a silica dry-pack

| <b>Label</b>    |   |
|-----------------|---|
| Order No.       | XXXXXXXXXX                                    |
| Type            | OLS-153 ?????-??-T                            |
| Intensity group | ZZ      Color class: CC                       |
| Charge No.      | 1122-AAAAAA                                   |
| Quantity        | 9999  |
|                 | Customer order No.                            |
|                 | Color class - optional                        |
|                 | 11 Week – 22 year – A internal identification |

Attention please:

The information describes the type of component and shall not considered as assured characteristics. Terms of delivery and rights to change reserved. Due to technical requirements components may contain dangerous substances. The data sheet may changed without prior information; the valid issue will be on our webpage in internet. Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. OSA opto light does not have the responsibility for the reliability and the degradation behaviour of products made with OSA opto light diodes because they depend not only on the diode but also on the conditions of manufacture or design of the final products.

Packaging: Please use the recycling operators known to you.

Components used in life support devices or systems and safety systems must be expressly authorized for such purpose!