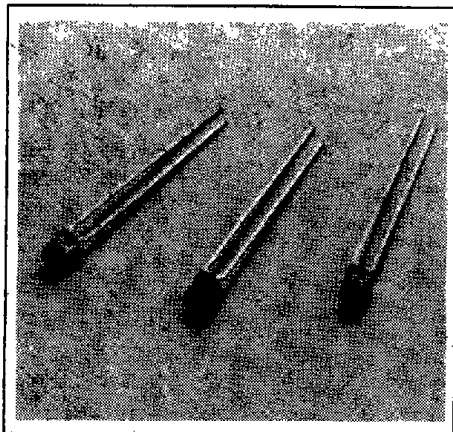


**SIEMENS**

T 41-21

**SUPER-RED LS 3180****YELLOW LY 3180****GREEN LG 3180****T1 (3 mm) WIDE ANGLE LED LAMP****FEATURES**

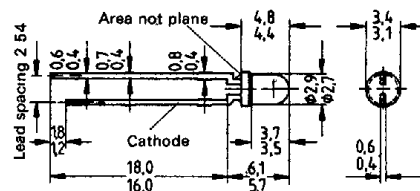
- Colors: Super-Red, Yellow, Green
- Lens: Red Diffused, Yellow Diffused, Green Diffused
- Low Power Dissipation
- Low Self-Heating
- Rigid Construction
- Suitable for Multiplex Operation
- Wide Angle 100°
- Cathode: Shorter Solder Tab

**DESCRIPTION**

The LS/LY/LG 3180 are T1 (3 mm) wide angle LED lamps. The 3 mm plastic package has colored diffused lenses to match the emission color, 2.54 mm lead spacing, and solder tabs (17 mm).

Applications include switching and ON/OFF displays, and back lighting.

Package Dimensions mm

**Maximum Ratings**

|                                                    |       |                 |
|----------------------------------------------------|-------|-----------------|
| Reverse Voltage ( $V_R$ )                          | ..... | 5 V             |
| Forward Current ( $I_F$ )                          | ..... | 45 mA           |
| Surge Current ( $I_{FS}$ , $t \leq 10 \mu s$ )     | ..... | 1 A             |
| Operating Temperature ( $T_{OP}$ )                 | ..... | -55°C to +100°C |
| Storage Temperature ( $T_{STG}$ )                  | ..... | -55°C to +100°C |
| Junction Temperature ( $T_J$ )                     | ..... | +100°C          |
| Power Dissipation ( $P_{TOT}$ , $T_A=25^\circ C$ ) | ..... | 150 mW          |
| Thermal Resistance: Junction/Air ( $R_{THA}$ )     | ..... | 500 K/W         |

**Characteristics ( $T_A=25^\circ C$ )**

| Parameter                                         | Symbol           | LS 3180<br>Super-Red | LY 3180<br>Yellow  | LG 3180<br>Green   | Unit    |
|---------------------------------------------------|------------------|----------------------|--------------------|--------------------|---------|
| Wavelength at Peak                                |                  |                      |                    |                    |         |
| Emission ( $I_F=20$ mA)                           | $\lambda_{PEAK}$ | 635                  | 586                | 565                | nm      |
| Dominant Wavelength                               | $\lambda_{DOM}$  | 628                  | 590                | 567                | nm      |
| Viewing Angle at 50% $I_V$                        | $\phi$           | 100                  | 100                | 100                | Deg.    |
| Forward Voltage ( $I_F=10$ mA)                    | $V_F$            | 2.0 ( $\leq 2.6$ )   | 2.0 ( $\leq 2.6$ ) | 2.0 ( $\leq 2.6$ ) | V       |
| Reverse Current ( $V_R=5$ V)                      | $I_R$            | 0.01 ( $\leq 10$ )   | 0.01 ( $\leq 10$ ) | 0.01 ( $\leq 10$ ) | $\mu A$ |
| Capacitance<br>( $V_R=0$ V, $f=1$ MHz)            | $C_o$            | 12                   | 10                 | 45                 | pF      |
| Switching Times<br>( $I_F=100$ mA, $t=10 \mu s$ ) |                  |                      |                    |                    |         |
| Rise Time of $I_V$<br>$I_V$ from 10% to 90%       | $t_r$            | 300                  | 300                | 1000               | ns      |
| Fall Time of $I_V$<br>$I_V$ from 90% to 10%       | $t_f$            | 150                  | 150                | 450                | ns      |

Luminous Intensity  $I_V$  (mcd)\*

| Part Number | Min. | Max. | Test Condition | Part Number | Min. | Max. | Test Condition |
|-------------|------|------|----------------|-------------|------|------|----------------|
| LS 3180-GK  | 1.6  | 12.5 | 10 mA          | LY 3180-HL  | 2.5  | 20   | 10 mA          |
| LS 3180-H   | 2.5  | 5    | 10 mA          | LY 3180-J   | 4    | 8    | 10 mA          |
| LS 3180-J   | 4    | 8    | 10 mA          | LG 3180-EH  | 0.63 | 5    | 10 mA          |
| LS 3180-JM  | 4    | 32   | 10 mA          | LG 3180-G   | 1.6  | 3.2  | 10 mA          |
| LS 3180-K   | 6.3  | 12.5 | 10 mA          | LG 3180-GK  | 1.6  | 12.5 | 10 mA          |
| LY 3180-FJ  | 1    | 8    | 10 mA          | LG 3180-H   | 2.5  | 5    | 10 mA          |
| LY 3180-G   | 1.6  | 3.2  | 10 mA          |             |      |      |                |
| LY 3180-H   | 2.5  | 5    | 10 mA          |             |      |      |                |

\* Luminous intensity factor of  $I_V$  of one packaging unit  $\frac{I_{V MAX}}{I_{V MIN}} \leq 2$

See graph numbers 1, 2D, 3E, 4A, 5D, 6A, 7A, 8, 9, 10 on pages XX.