

**SL0130-T0603****List**

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# SL0130-T0603

## 100mA 30V Small Signal Schottky Diodes

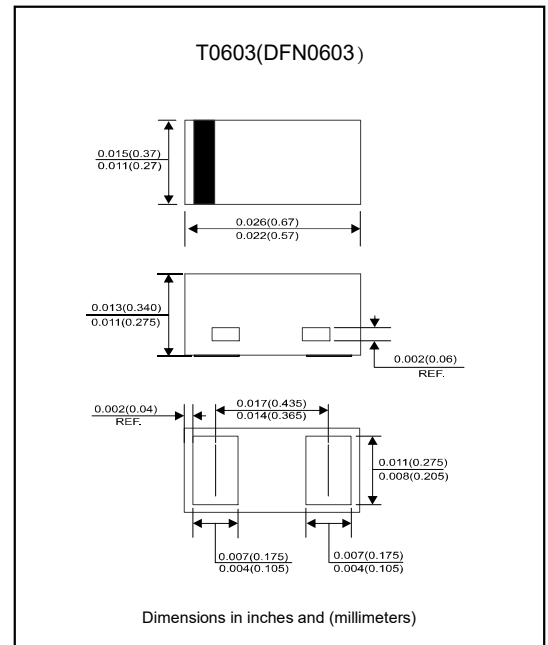
### Features

- Low forward voltage.
- Ultra small mold type.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex.SL0130-T0603-H.

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic,T0603 (DFN0603) .
- Terminal : Gold plated, Solder able per MIL-STD-750, Method 2026.
- Mounting Position : Any.

### Package outline



### Maximum ratings (At $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                                                                                                      | Symbol    | Ratings     | Units            |
|----------------------------------------------------------------------------------------------------------------|-----------|-------------|------------------|
| Peak reverse voltage                                                                                           | $V_{RRM}$ | 30          | V                |
| Average rectified forward current                                                                              | $I_O$     | 100         | mA               |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rate load (JEDEC method) (60Hz*1cycle) | $I_{FSM}$ | 500         | mA               |
| Operating junction temperature                                                                                 | $T_J$     | +125        | $^\circ\text{C}$ |
| Storage temperature range                                                                                      | $T_{STG}$ | -40 to +125 | $^\circ\text{C}$ |

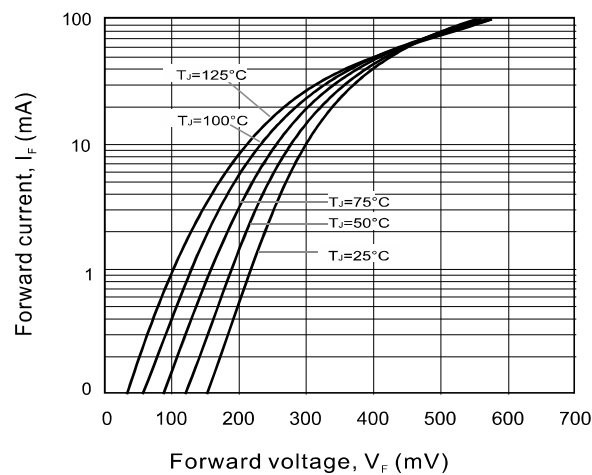
### Electrical characteristics (At $T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter                             | Conditions        | Symbols | Min | Typ | Max  | Unit          |
|---------------------------------------|-------------------|---------|-----|-----|------|---------------|
| Maximum instantaneous forward voltage | $I_F=10\text{mA}$ | $V_F$   |     |     | 0.37 | V             |
| Maximum DC reverse current            | $V_R=10\text{V}$  | $I_R$   |     |     | 7    | $\mu\text{A}$ |

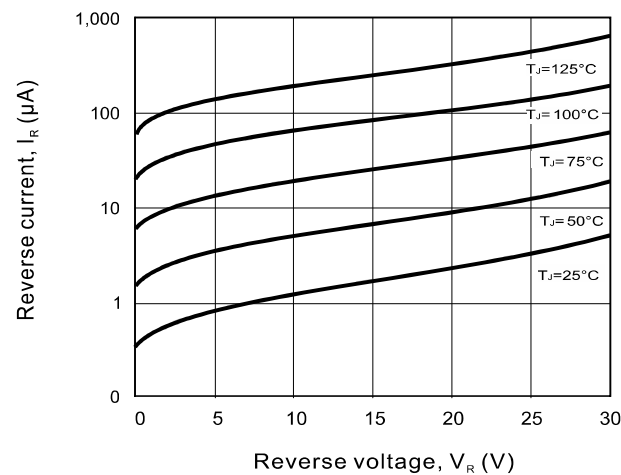
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Rating and characteristic curves

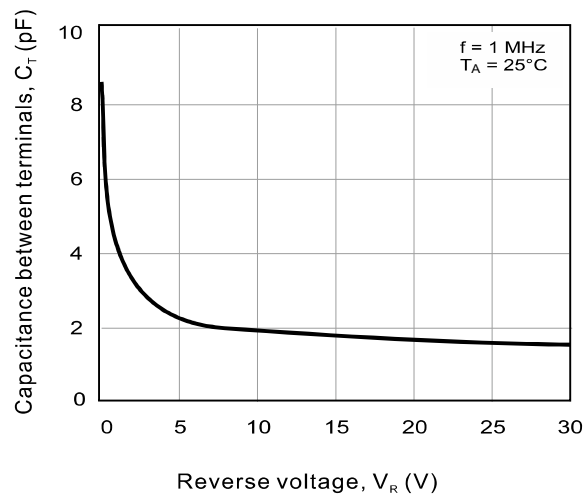
Forward characteristics



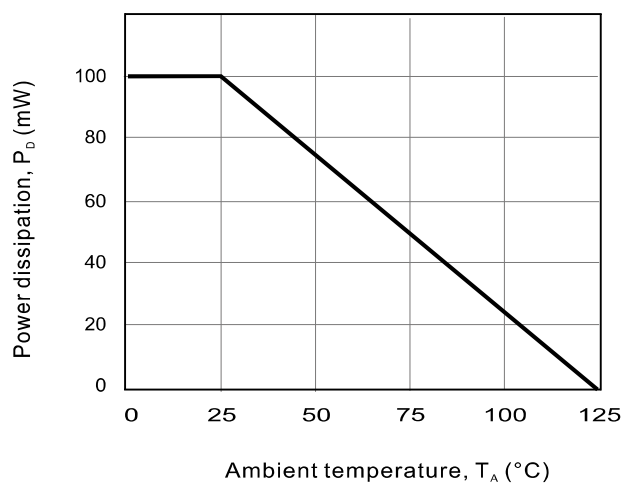
Reverse characteristics



Capacitance characteristics



Power derating curve



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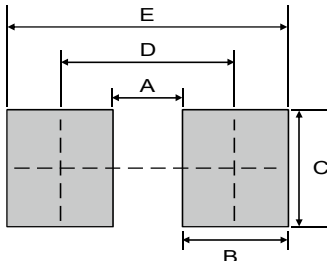
Pinning information

| Pin                        | Simplified outline                                                                | Symbol                                                                              |
|----------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Pin1 Cathode<br>Pin2 Anode |  |  |

Marking

| Type number  | Marking code |
|--------------|--------------|
| SL0130-T0603 | L            |

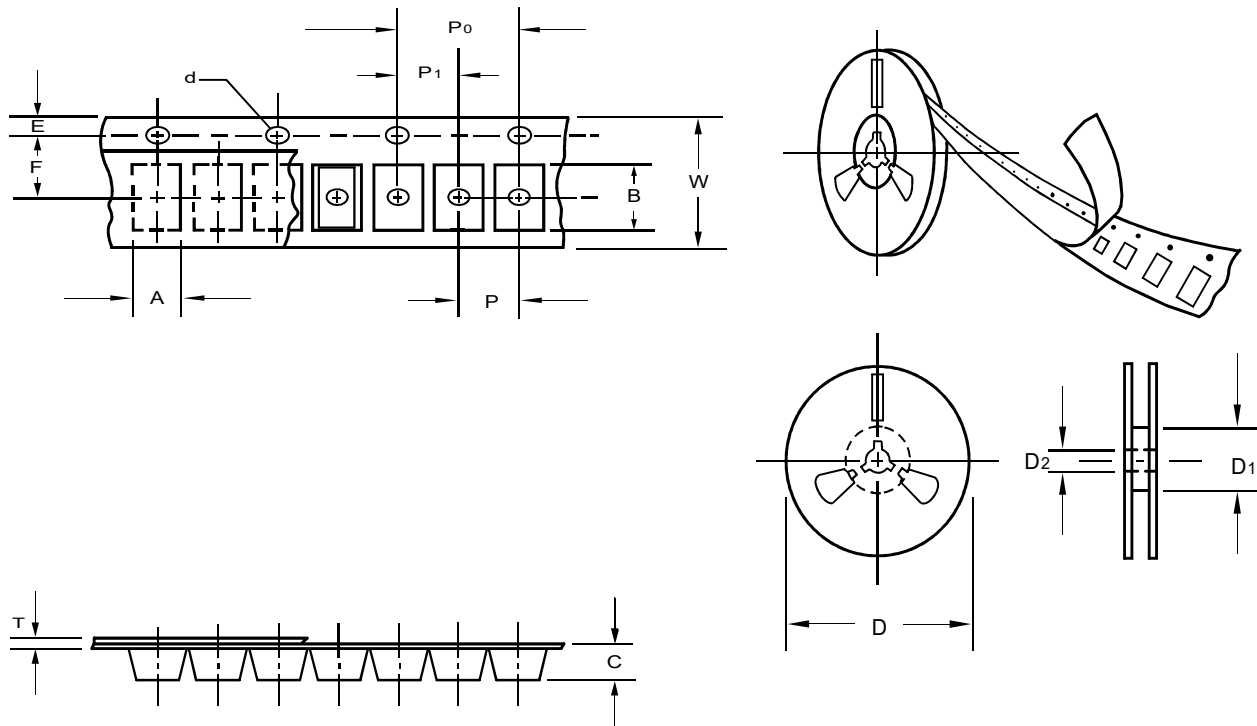
Suggested solder pad layout



| Size | T0603 |        |
|------|-------|--------|
|      | (mm)  | (inch) |
| A    | 0.15  | 0.006  |
| B    | 0.23  | 0.009  |
| C    | 0.34  | 0.013  |
| D    | 0.40  | 0.016  |
| E    | 0.64  | 0.025  |

## SL0130-T0603

## Packing information



unit:mm

| Item                      | Symbol | Tolerance | DFN0603<br>(T0603) |
|---------------------------|--------|-----------|--------------------|
| Carrier width             | A      | 0.1       | 0.44               |
| Carrier length            | B      | 0.1       | 0.74               |
| Carrier depth             | C      | 0.1       | 0.40               |
| Sprocket hole             | d      | 0.1       | 1.50               |
| 13" Reel outside diameter | D      | 2.0       | -                  |
| 13" Reel inner diameter   | D1     | min       | -                  |
| 7" Reel outside diameter  | D      | 2.0       | 178.0              |
| 7" Reel inner diameter    | D1     | min       | 60.0               |
| Feed hole diameter        | D2     | 0.5       | 13.5               |
| Sprocket hole position    | E      | 0.1       | 1.75               |
| Punch hole position       | F      | 0.1       | 3.5                |
| Punch hole pitch          | P      | 0.1       | 2.0                |
| Sprocket hole pitch       | P0     | 0.1       | 4.0                |
| Embossment center         | P1     | 0.1       | 2.0                |
| Overall tape thickness    | T      | 0.1       | 0.2                |
| Tape width                | W      | 0.3       | 8.0                |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

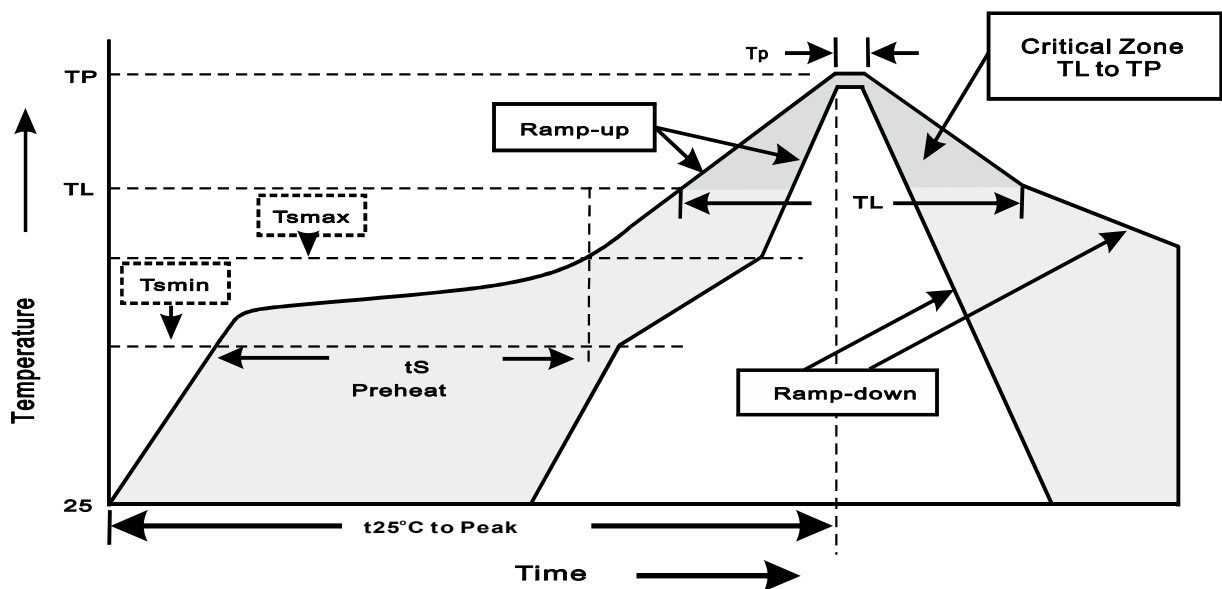
## SL0130-T0603

## Reel packing

| PACKAGE         | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) |
|-----------------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|
| T0603 (DFN0603) | 7"        | 10,000     | 4.0                     | 100,000   | 183*123*183     | 178             | 382*257*387       | 800,000      |

## Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



## 3.Reflow soldering

| Profile Feature                                                                                           | Soldering Condition         |
|-----------------------------------------------------------------------------------------------------------|-----------------------------|
| Average ramp-up rate( $T_L$ to $T_P$ )                                                                    | $<3^\circ\text{C/sec}$      |
| Preheat<br>-Temperature Min( $T_{smin}$ )<br>-Temperature Max( $T_{smax}$ )<br>-Time(min to max)( $t_s$ ) | 150°C<br>200°C<br>60~120sec |
| $T_{smax}$ to $T_L$<br>-Ramp-upRate                                                                       | $<3^\circ\text{C/sec}$      |
| Time maintained above:<br>-Temperature( $T_L$ )<br>-Time( $t_L$ )                                         | 217°C<br>60~260sec          |
| Peak Temperature( $T_P$ )                                                                                 | 255°C-0/+5°C                |
| Time within 5°C of actual Peak Temperature( $t_P$ )                                                       | 10~30sec                    |
| Ramp-down Rate                                                                                            | $<6^\circ\text{C/sec}$      |
| Time 25°C to Peak Temperature                                                                             | $<6\text{minutes}$          |