

# FM0230-T0603

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# FM0230-T0603

## 200mA Small Signal Schottky Diodes 30V

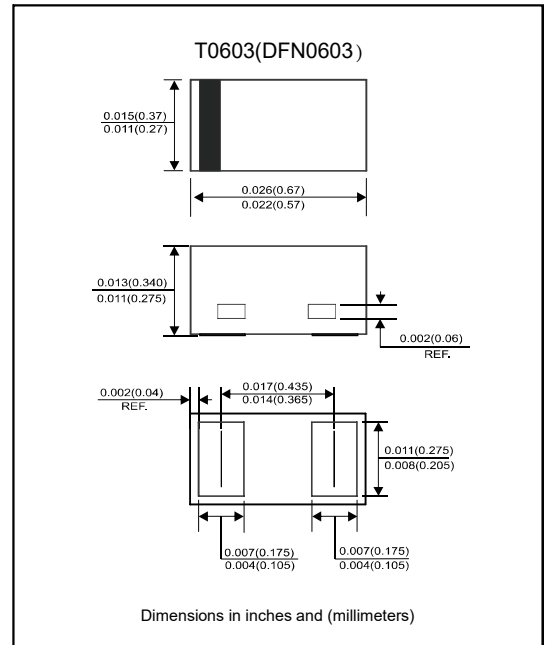
### Features

- Low reverse current.
- Low forward voltage.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex.FM0230-T0603-H.

### Mechanical data

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

### Package outline

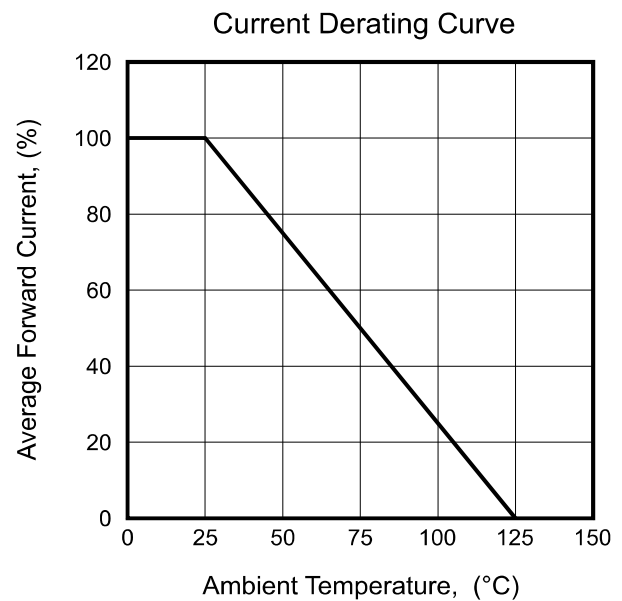
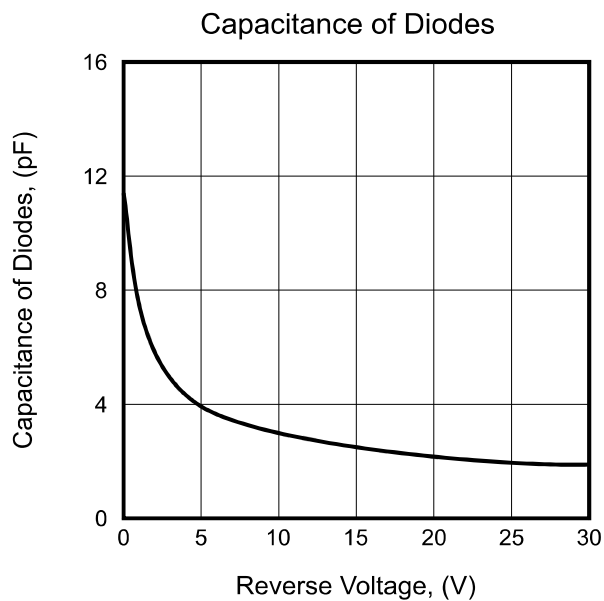
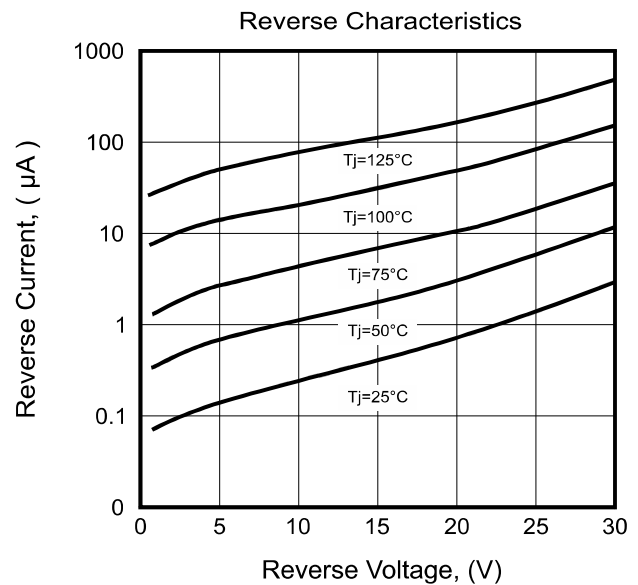
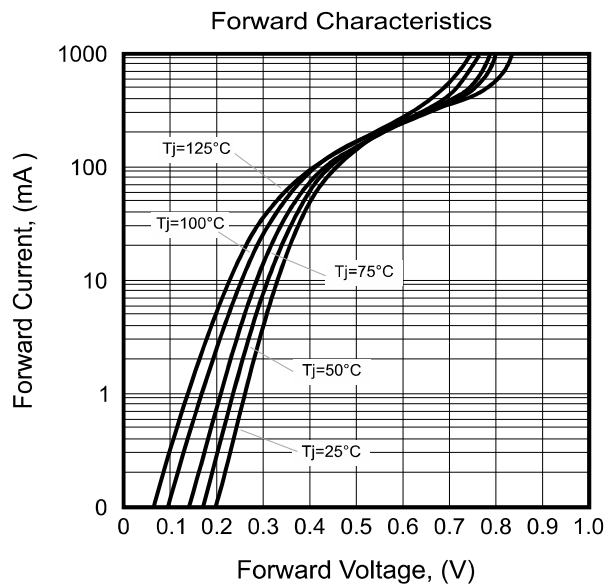


### Maximum ratings (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                                                                                                                        | Symbol    | Ratings     | Units              |
|----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|--------------------|
| Reverse voltage                                                                                                                  | $V_R$     | 30          | V                  |
| Average rectified forward current                                                                                                | $I_O$     | 200         | mA                 |
| Non-repetitive peak forward surge current (60Hz*1cycle)<br>(8.3ms single half sine-wave superimposed on rete load(JEDEC method)) | $I_{FSM}$ | 2           | A                  |
| Junction temperature                                                                                                             | $T_J$     | +125        | $^{\circ}\text{C}$ |
| Storage temperature range                                                                                                        | $T_{STG}$ | -55 to +150 | $^{\circ}\text{C}$ |

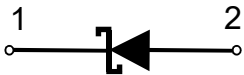
### Electrical characteristics (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                     | Conditions                       | Symbol | Min. | Typ. | Max. | Units         |
|-------------------------------|----------------------------------|--------|------|------|------|---------------|
| Forward voltage               | $I_F=10\text{mA}$                | $V_F$  |      | 0.33 | 0.39 | V             |
|                               | $I_F=100\text{mA}$               |        |      |      | 0.54 | V             |
|                               | $I_F=200\text{mA}$               |        |      |      | 0.64 | V             |
| Reverse current               | $V_R=10\text{V}$                 | $I_R$  |      | 0.3  | 2    | $\mu\text{A}$ |
|                               | $V_R=30\text{V}$                 |        |      |      | 10   | $\mu\text{A}$ |
| Capacitance between terminals | f=1MHz, and 1VDC reverse voltage | $C_T$  |      | 7    |      | pF            |

**FM0230-T0603****Rating and characteristic curves**

FM0230-T0603

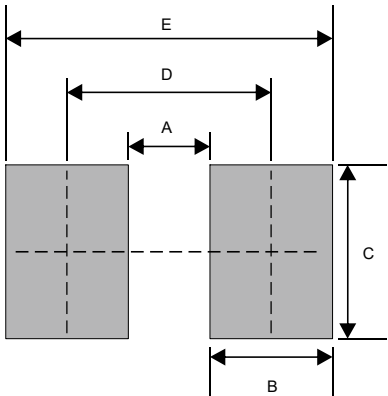
Pinning information

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

Marking

| Type number  | Marking code |
|--------------|--------------|
| FM0230-T0603 | 2A           |

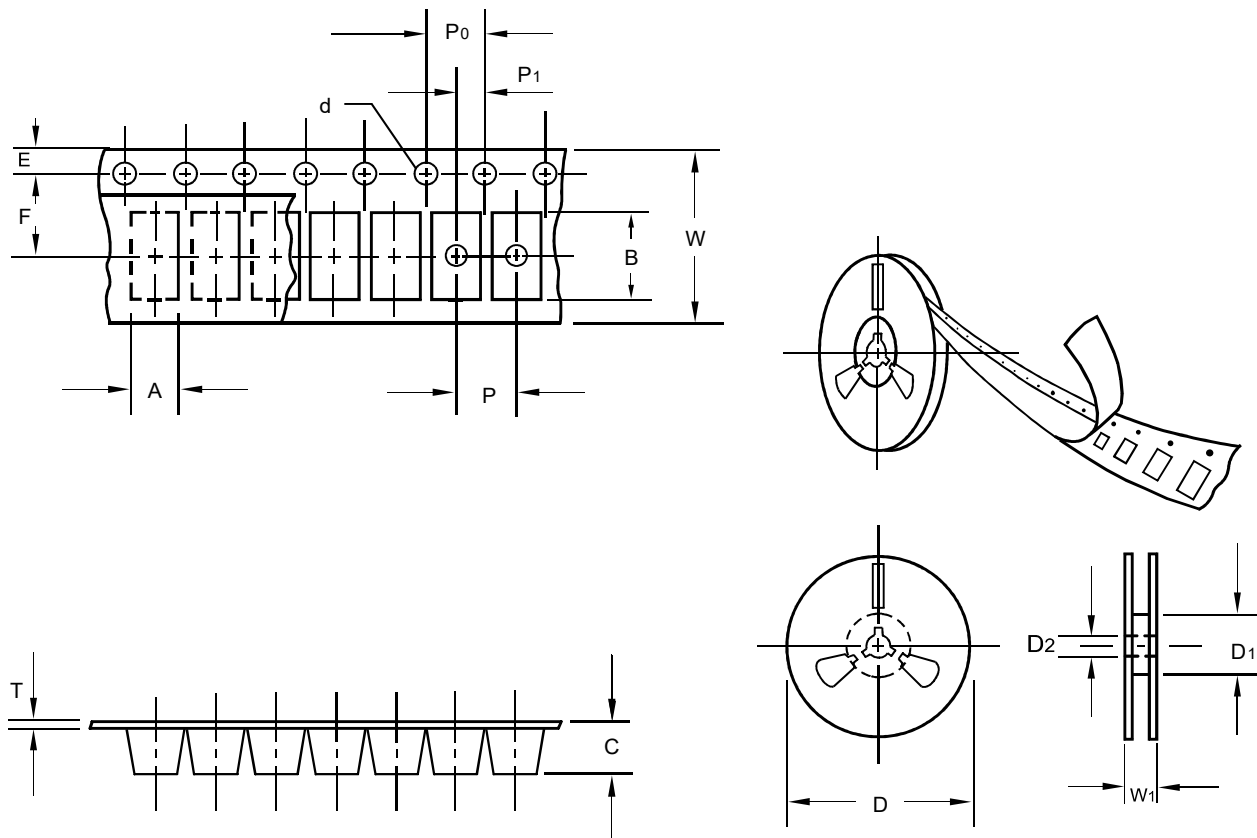
Suggested solder pad layout



| T0603<br>(DFN0603) | A               | B               | C               | D               | E               |
|--------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                    | 0.006<br>(0.16) | 0.009<br>(0.24) | 0.013<br>(0.34) | 0.016<br>(0.40) | 0.025<br>(0.64) |

## FM0230-T0603

## Packing information



unit:mm

| Item                      | Symbol | Tolerance | T0603<br>(DFN0603) |
|---------------------------|--------|-----------|--------------------|
| 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     | 1.0       | -                  |
| 7" Reel outside diameter  | D      | 2.0       | 178.00             |
| 7" Reel inner diameter    | D1     | min       | 60.00              |
| Sprocket hole position    | E      | 0.1       | 1.75               |
| Punch hole position       | F      | 0.1       | 3.50               |
| Punch hole pitch          | P      | 0.1       | 2.00               |
| Sprocket hole pitch       | P0     | 0.1       | 4.00               |
| Embossment center         | P1     | 0.05      | 2.00               |
| Overall tape thickness    | T      | 0.2       | 0.20               |
| Tape width                | W      | 0.1       | 8.00               |
| Tape width                | W      | 0.5       | 12.00              |

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

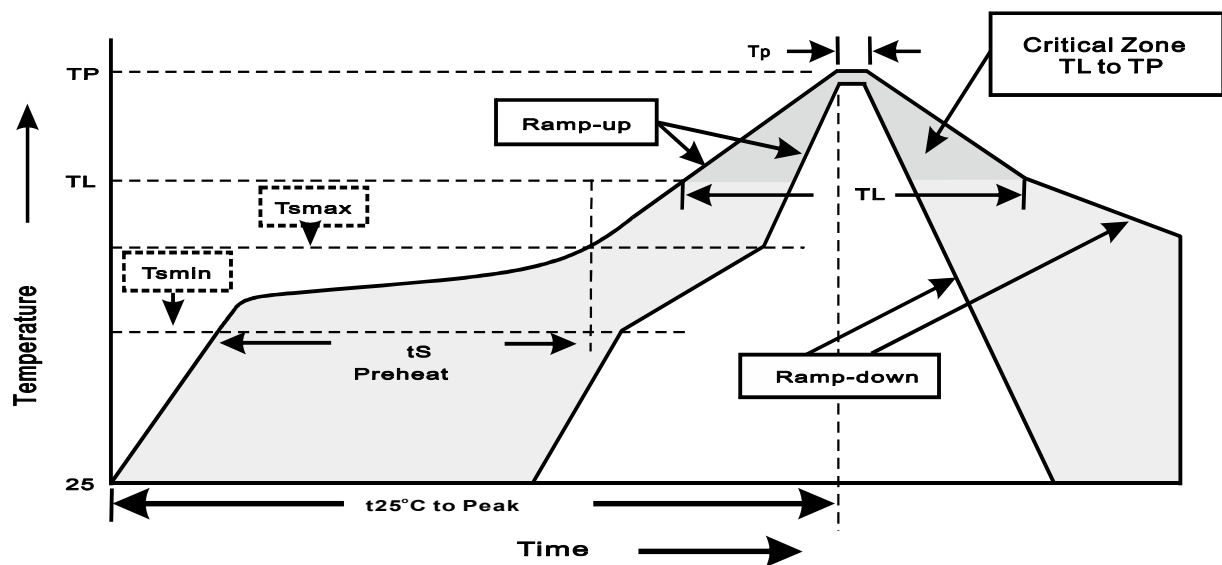
## FM0230-T0603

## 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°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°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°C/sec                    |
| Time 25°C to Peak Temperature                                                                             | <6minutes                   |