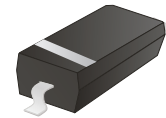


## CDSW19-G/20-G/21-G

RoHS Device



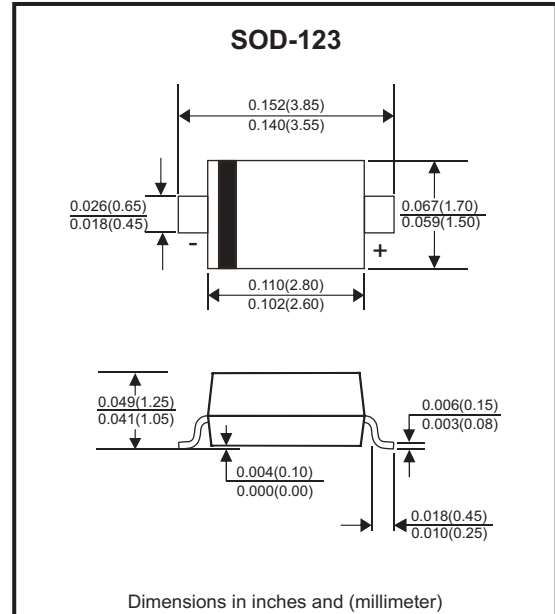
### Features

- Fast switching speed.
- Low reverse current.
- Surface mount package ideally suited for automatic insertion.
- For general purpose switching applications.

### Mechanical data

- Case: SOD-123, molded plastic.
- Weight: 0.01 gram(approx.).

### Circuit diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

| Parameter                                              | Symbol          | CDSW19-G   | CDSW20-G | CDSW21-G | Unit |
|--------------------------------------------------------|-----------------|------------|----------|----------|------|
| Non-repetitive peak reverse voltage                    | $V_{RM}$        | 120        | 200      | 250      | V    |
| Peak repetitive reverse voltage                        | $V_{RRM}$       | 100        | 150      | 200      | V    |
| Working peak reverse voltage                           | $V_{RWM}$       |            |          |          | V    |
| RMS reverse voltage                                    | $V_{R(RMS)}$    | 71         | 106      | 141      | V    |
| Average rectified output current                       | $I_o$           | 200        |          |          | mA   |
| Non-repetitive peak forward surge current<br>@ t=8.3ms | $I_{FSM}$       | 2.0        |          |          | A    |
| Power dissipation                                      | $P_D$           | 500        |          |          | mW   |
| Thermal Resistance (Junction to ambient)               | $R_{\theta JA}$ | 250        |          |          | °C/W |
| Junction temperature                                   | $T_J$           | 150        |          |          | °C   |
| Storage temperature                                    | $T_{STG}$       | -55 ~ +150 |          |          | °C   |

### Electrical Characteristics (at Ta=25°C unless otherwise noted)

| Parameter             | Conditions                                                        | Symbol    | Min | Typ | Max               | Unit    |
|-----------------------|-------------------------------------------------------------------|-----------|-----|-----|-------------------|---------|
| Forward voltage       | $I_F=100mA$<br>$I_F=200mA$                                        | $V_F$     |     |     | 1.0<br>1.25       | V       |
| Reverse current       | CDSW19-G $V_R=100V$<br>CDSW20-G $V_R=150V$<br>CDSW21-G $V_R=200V$ | $I_R$     |     |     | 0.1<br>0.1<br>0.1 | $\mu A$ |
| Total capacitance     | $V_R=0V$ , f=1MHz                                                 | $C_{tot}$ |     |     | 5                 | pF      |
| Reverse recovery time | $I_F=I_R=30mA$ , $I_{rr}=0.1 \cdot I_R$ , $R_L=100\Omega$         | $t_{RR}$  |     |     | 50                | ns      |

Company reserves the right to improve product design , functions and reliability without notice.

REV: D

Rating and Typical Characteristic Curves (CDSW19-G/20-G/21-G)

Fig.1 - Forward Characteristic

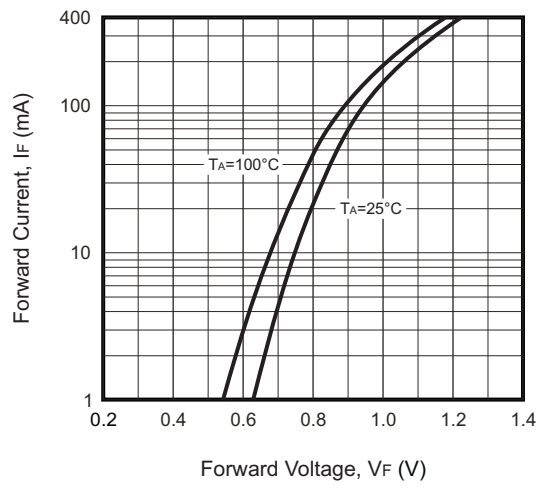


Fig.2 - Reverse Characteristic

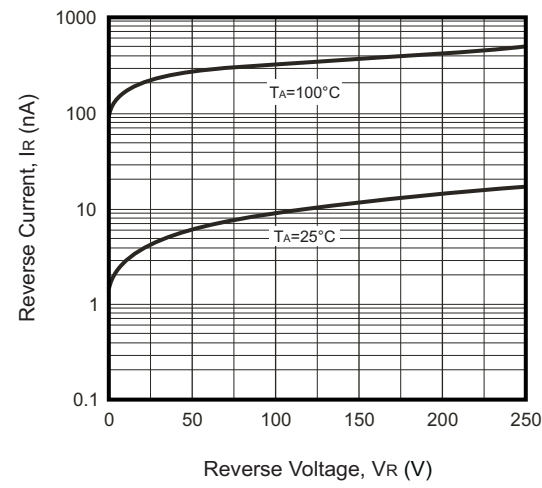


Fig.3 - Capacitance Characteristics

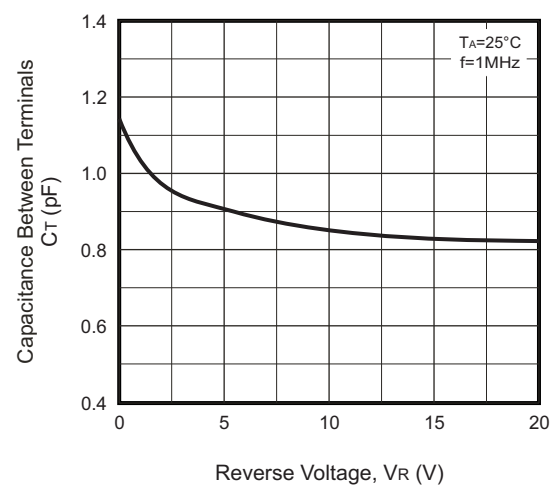
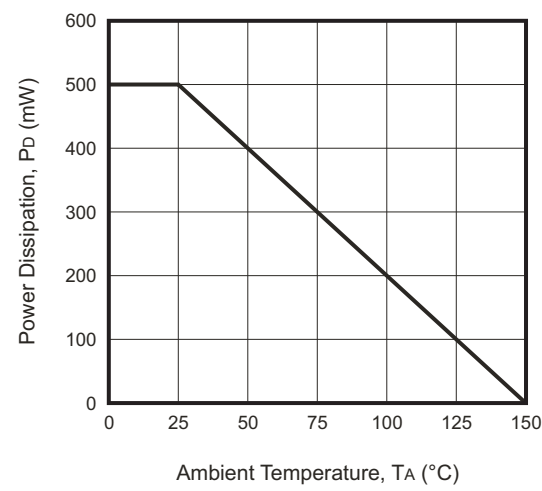
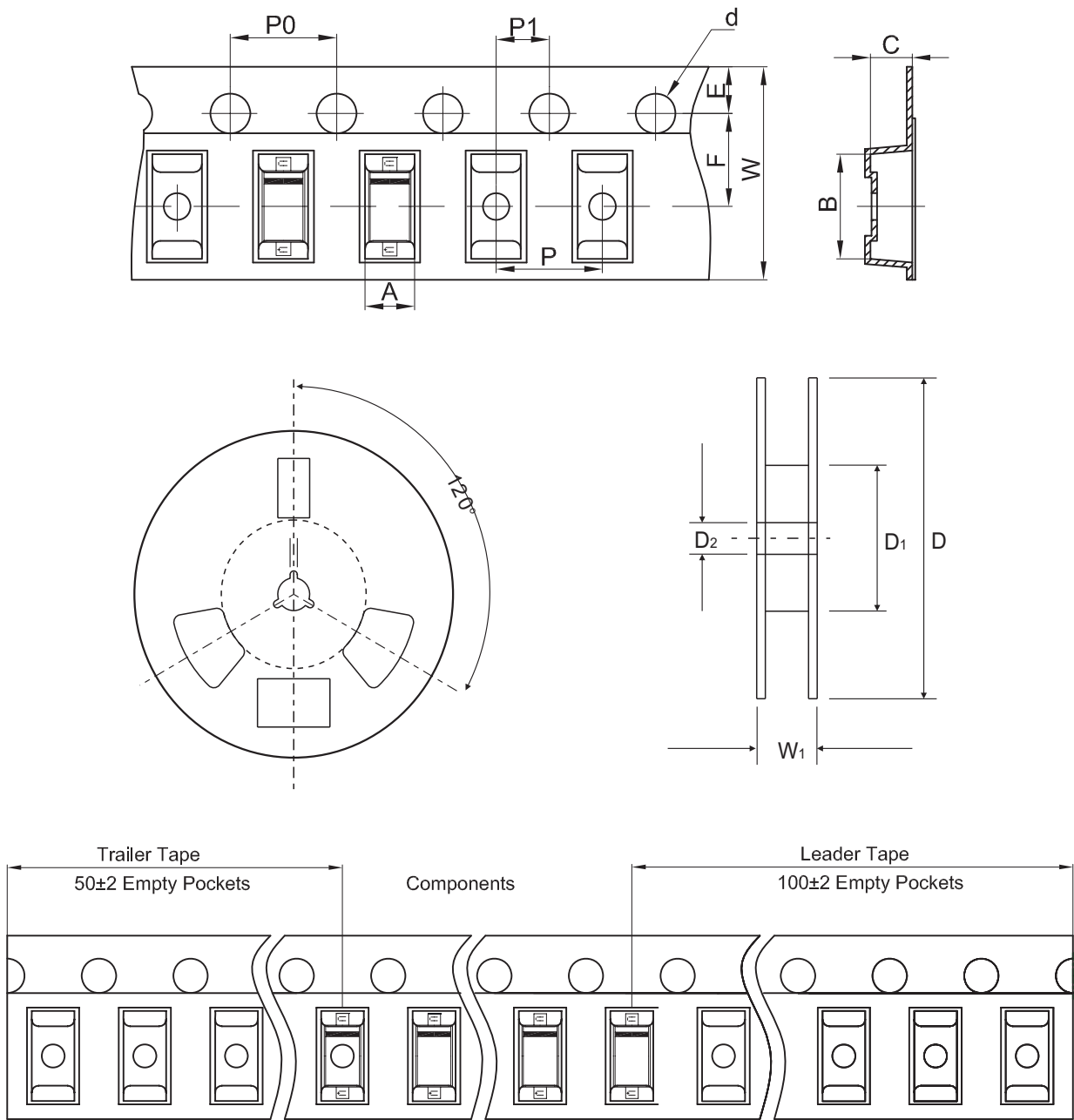


Fig.4 - Power Derating Curve



Reel Taping Specification



| SOD-123 | SYMBOL | A             | B             | C             | d             | D             | D1            | D2            |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|         | (mm)   | 1.85 ± 0.10   | 3.95 ± 0.10   | 1.57 ± 0.10   | 1.55 ± 0.10   | 178 ± 1.00    | 54.40 ± 0.40  | 13.0 ± 0.20   |
|         | (inch) | 0.073 ± 0.004 | 0.155 ± 0.004 | 0.062 ± 0.004 | 0.061 ± 0.004 | 7.008 ± 0.039 | 2.142 ± 0.016 | 0.512 ± 0.008 |

| SOD-123 | SYMBOL | E             | F             | P             | P1            | P0            | W             | W1            |
|---------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|         | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.05   | 4.00 ± 0.10   | 2.00 ± 0.10   | 4.00 ± 0.10   | 8.00 ± 1.00   | 12.30 ± 1.00  |
|         | (inch) | 0.069 ± 0.004 | 0.138 ± 0.002 | 0.158 ± 0.004 | 0.079 ± 0.004 | 0.158 ± 0.004 | 0.315 ± 0.039 | 0.484 ± 0.039 |

## Marking Code

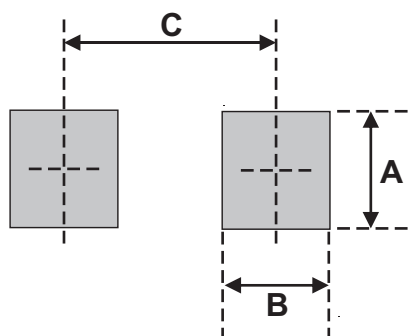
| Part Number | Marking Code |
|-------------|--------------|
| CDSW19-G    | A8           |
| CDSW20-G    | T2           |
| CDSW21-G    | T3           |



The marking bar indicates the cathode

## Suggested PAD Layout

| SIZE | SOD-123 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 1.00    | 0.039  |
| B    | 0.80    | 0.031  |
| C    | 3.24    | 0.128  |



Note:

1.The pad layout is for reference purposes only.

## Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOD-123   | 3,000           | 7                   |