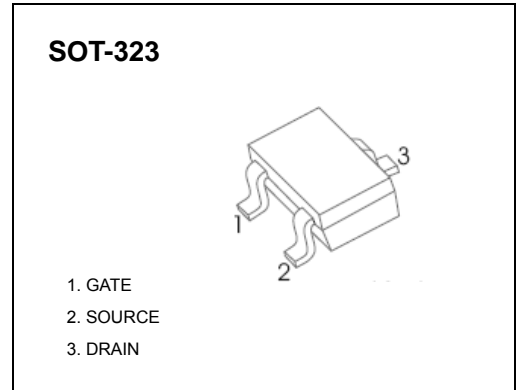




SOT-323 Plastic-Encapsulate MOSFETS

CJ3134KW N-Channel MOSFET

| $V_{(BR)DSS}$ | $R_{DS(on)MAX}$ | I_D |
|---------------|-----------------|-------|
| 20V | 380 mΩ@4.5V | 0.75A |
| | 450 mΩ@2.5V | |
| | 800mΩ@1.8V | |



FEATURE

- High-Side Switching
- Low On-Resistance
- Low Threshold
- Fast Switching Speed

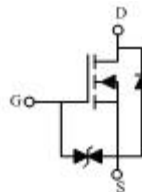
APPLICATION

- Drivers:Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

MARKING



Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------------|-----------|---------------|
| Drain-Source voltage | V_{DSS} | 20 | V |
| Typical Gate-Source Voltage | V_{GS} | ±12 | |
| Drain Current-Continuous | I_D | 0.75 | A |
| Drain Current -Pulsed(note1) | I_{DM} | 3 | |
| Power Dissipation (note 2) | P_D | 200 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 625 | $^{\circ}C/W$ |
| Storage Temperature | T_j | 150 | $^{\circ}C$ |
| Junction Temperature | T_{stg} | -55 ~+150 | |

MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$ unless otherwise specified

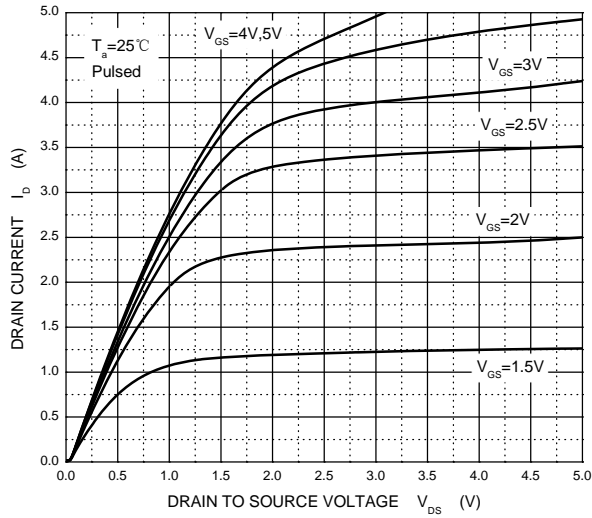
| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|---------------|---|------|------|----------|------------|
| On/Off States | | | | | | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 250\mu A$ | 20 | | | V |
| Gate-Threshold Voltage(note 3) | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 250\mu A$ | 0.35 | | 1.1 | |
| Gate-Body Leakage Current | I_{GSS} | $V_{DS} = 0V, V_{GS} = \pm 10V$ | | | ± 20 | μA |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 20V, V_{GS} = 0V$ | | | 1 | μA |
| Drain-Source On-State Resistance(note 3) | $R_{DS(on)}$ | $V_{GS} = 4.5V, I_D = 650mA$ | | | 380 | m Ω |
| | | $V_{GS} = 2.5V, I_D = 550mA$ | | | 450 | |
| | | $V_{GS} = 1.8V, I_D = 450mA$ | | | 800 | |
| Forward Transconductance | g_{fs} | $V_{DS} = 10V, I_D = 800mA$ | 1 | | | S |
| Dynamic Characteristics(note 4) | | | | | | |
| Input Capacitance | C_{iss} | $V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$ | | | 120 | pF |
| Output Capacitance | C_{oss} | | | | 20 | |
| Reverse Transfer Capacitance | C_{rss} | | | | 15 | |
| Switching Times (note 4) | | | | | | |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{DD} = 10V, I_D = 500mA,$ $V_{GS} = 4.5V, R_G = 10\Omega$ | | 6.7 | | ns |
| Rise Time | t_r | | | 4.8 | | |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 17.3 | | |
| Fall Time | t_f | | | 7.4 | | |
| Drain-Source Diode Characteristics | | | | | | |
| Drain-Source Diode Forward Voltage (note 3) | V_{SD} | $I_S = 0.15A, V_{GS} = 0V$ | | | 1.2 | V |

Notes:

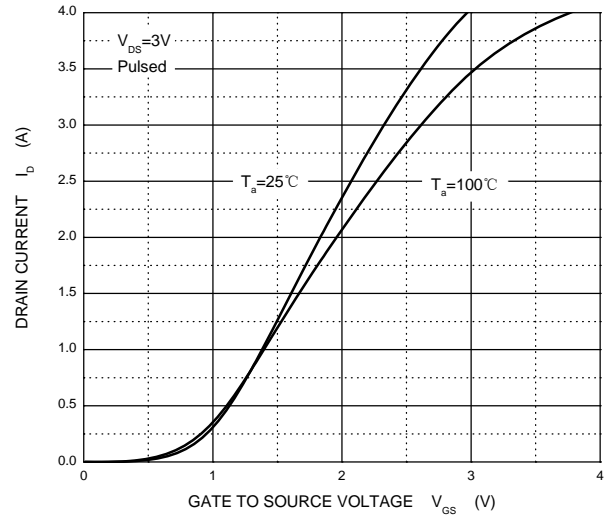
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at $T_a=25^\circ\text{C}$.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 0.5\%$.
4. These parameters have no way to verify.

Typical Characteristics

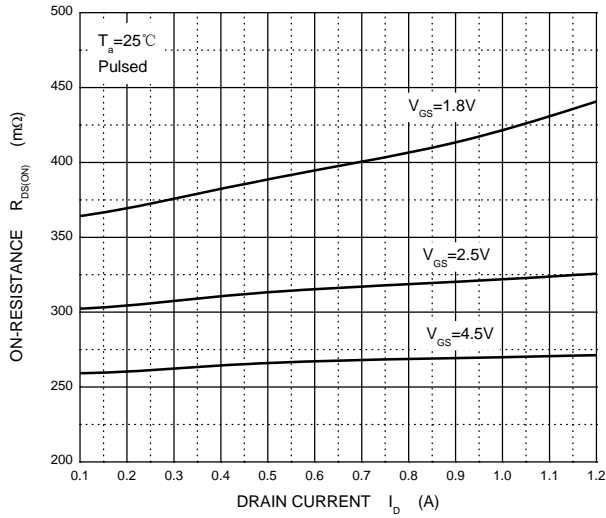
Output Characteristics



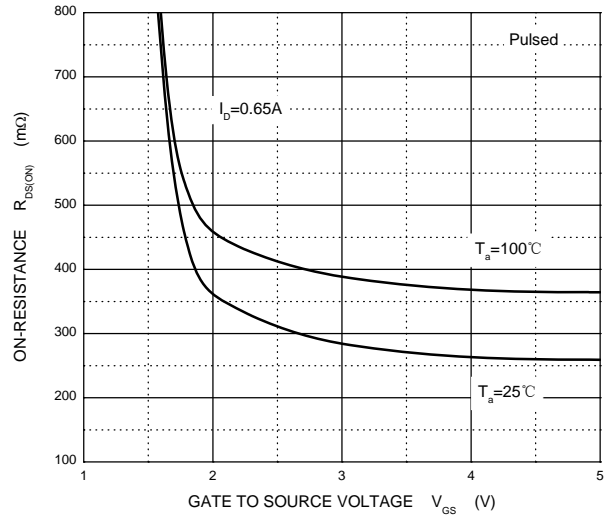
Transfer Characteristics



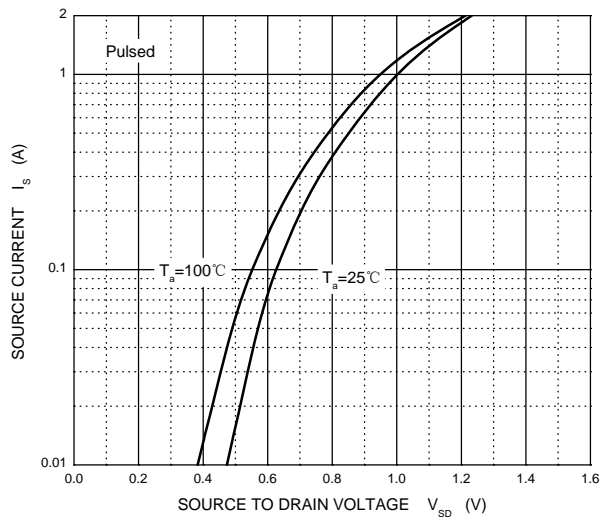
$R_{DS(ON)}$ — I_D



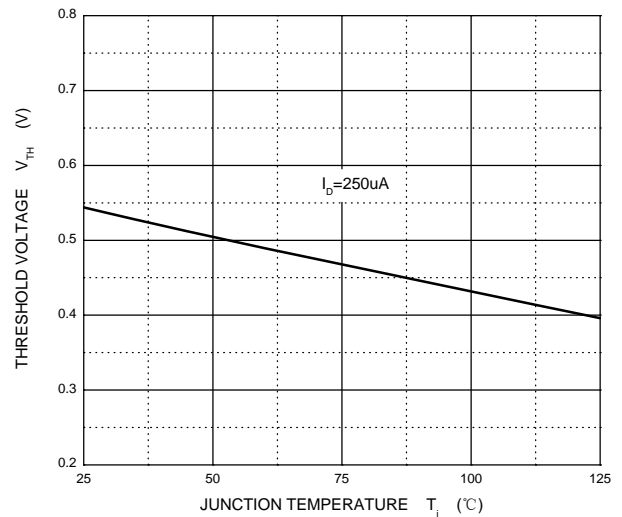
$R_{DS(ON)}$ — V_{GS}



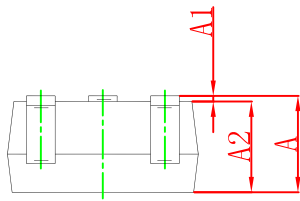
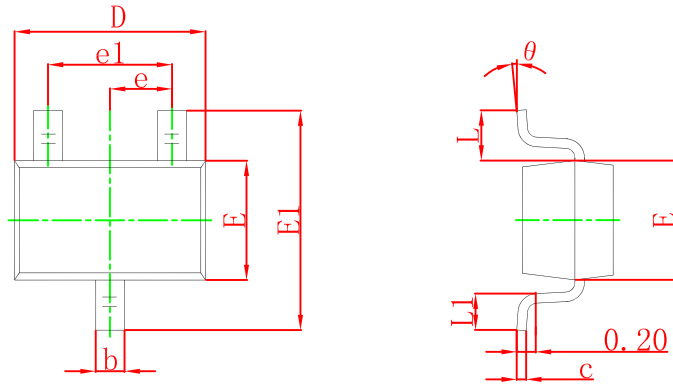
I_S — V_{SD}



Threshold Voltage

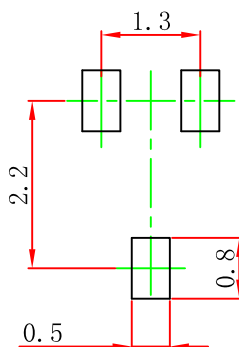


SOT-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.200 | 0.400 | 0.008 | 0.016 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.450 | 0.085 | 0.096 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| theta | 0° | 8° | 0° | 8° |

SOT-323 Suggested Pad Layout



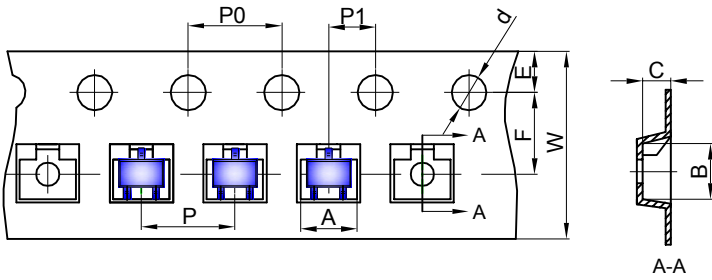
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

SOT-323 Tape and reel

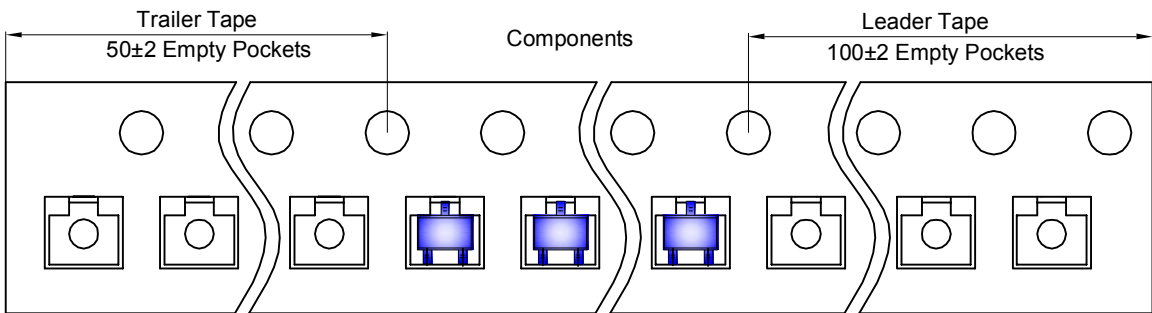
SOT-323 Embossed Carrier Tape



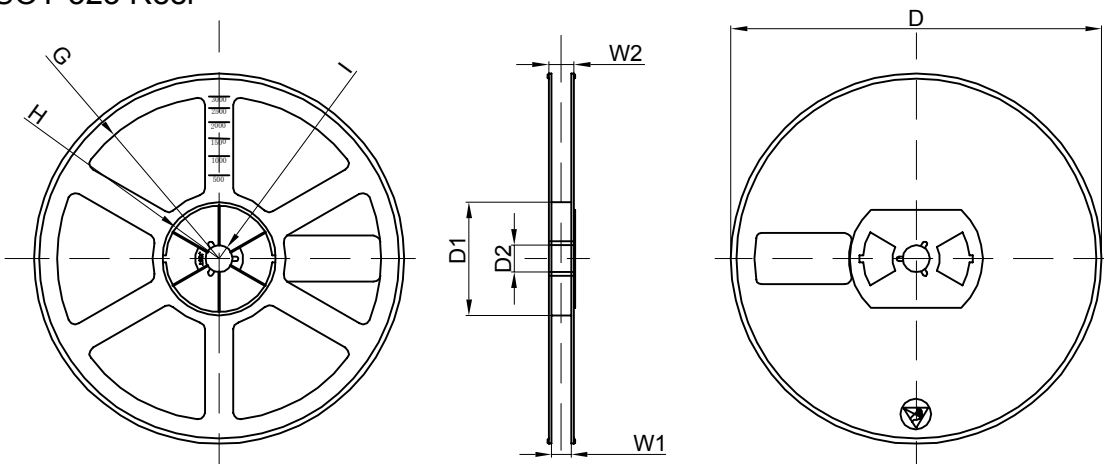
Packaging Description:
 SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-323 | 2.25 | 2.55 | 1.19 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-323 Tape Leader and Trailer



SOT-323 Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch | 30,000 pcs | 203×203×195 | 120,000 pcs | 438×438×220 | |