WILLAS

RoHS COMPLIANT

**FM3L40-MHT THRU FM3L100-MHT**

## 3.0A Surface Moun Low VF Schottky Barrier Rectifiers - 40V-100V

| PRIMARY CHARACTERISTICS | |
|---|---|
| $V_{RRM}$ | 40V,45V,60V100V |
| $I_O$ | 3A |
| $V_F$ | 0.45V,0.55V,0.80V |
| $T_{J,Max}$ | 125℃,150℃ |

### SOD-123HT PACKAGE

Marking Code :
See Table


Ex : FM3L40-MHT


Pin1 cathode
Pin2 anode


### FEATURES

- High current density schottky
- Very low profile - typical height of 0.8 mm
- Well package design with solder pad on the bottom for best thermal performance
- Tiny plastic SMD package
- Low power losses, high efficiency
- Low forward voltage drop
- Moisture Sensitivity Level 1

### MECHANICAL DATA

- Case：Molded plastic,SOD-123HT
- Polarity：Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

### Maximum ratings (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | SYMBOLS | FM3L40-MHT | FM3L45-MHT | FM3L60-MHT | FM3L100-MHT | UNITS |
|---|---|---|---|---|---|---|
| Marking Code | | 3LC | 3LP | 3LE | 3LG | |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 40 | 45 | 60 | 100 | Volts |
| Maximum RMS voltage | $V_{RMS}$ | 28 | 31.5 | 42 | 70 | Volts |
| Maximum continuous reverse voltage | $V_R$ | 40 | 45 | 60 | 100 | Volts |
| Maximum average forward rectified current | $I_O$ | 3.0 | | | | Amps |
| Non-repetitive peak forward surge current 1.0ms square-wave | $I_{FSM}$ | 80 | | | | Amps |
| Operating junction temperature range | $T_J$ | -55 to +125 | | -55 to +150 | | °C |
| Storage temperature range | $T_{STG}$ | -65 to +175 | | | | °C |

### Electrical characteristics (AT $T_A$=25°C unless otherwise noted)

| PARAMETER | SYMBOLS | FM3L40-MHT | FM3L45-MHT | FM3L60-MHT | FM3L100-MHT | UNITS |
|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage at $I_F$=3.0A | $V_F$ | 0.45 | 0.45 | 0.55 | 0.80 | Volts |
| Maximum reverse leakage current at rated $V_R$ $T_J$=25°C<br>$T_J$=100°C | $I_R$ | 0.5<br>20 | | | | mA<br>mA |

### Thermal characteristics

| PARAMETER | SYMBOLS | FM3L40-MHT | FM3L45-MHT | FM3L60-MHT | FM3L100-MHT | UNITS |
|---|---|---|---|---|---|---|
| Typical thermal resistance junction to ambient (note 1)<br>Typical thermal resistance junction to case (note 1) | $R_{\theta JA}$<br>$R_{\theta JC}$ | 75<br>35 | | | | °C / W<br>°C / W |

Note 1: Mounted on FR-4 PCB Copper, minimum recommended pad layout.

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## Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

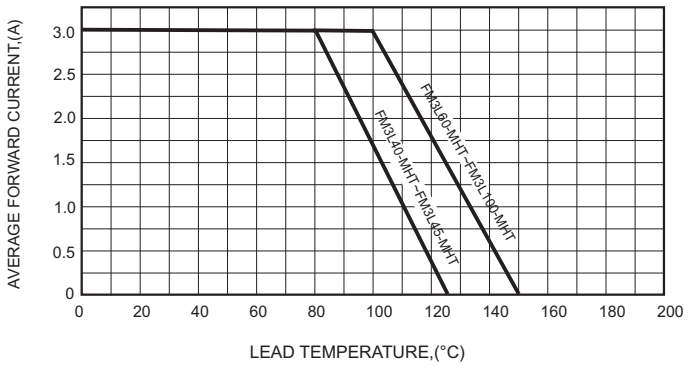



FIG.2-TYPICAL FORWARD CHARACTERISTICS

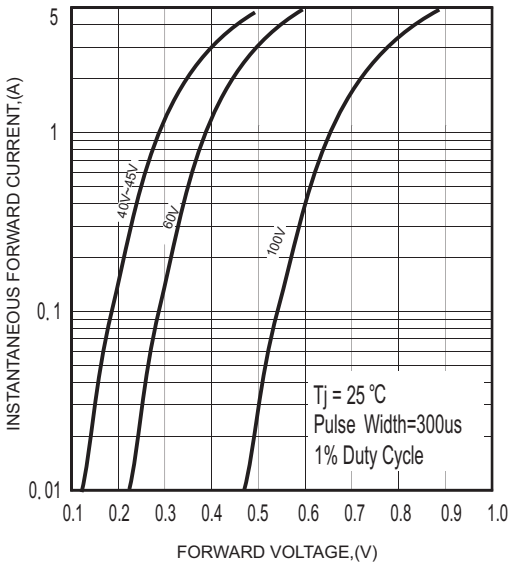



FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

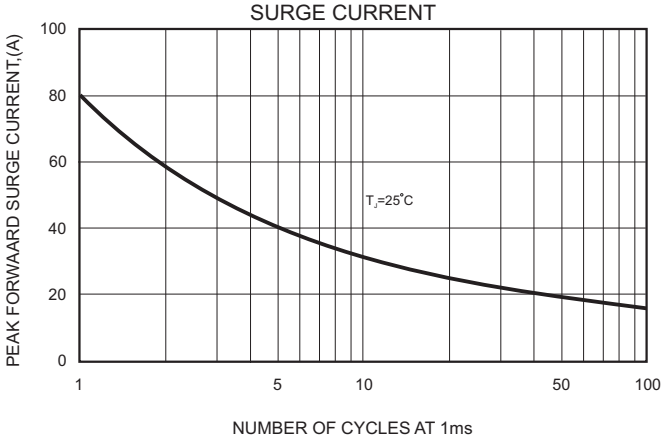



FIG.4-TYPICAL JUNCTION CAPACITANCE

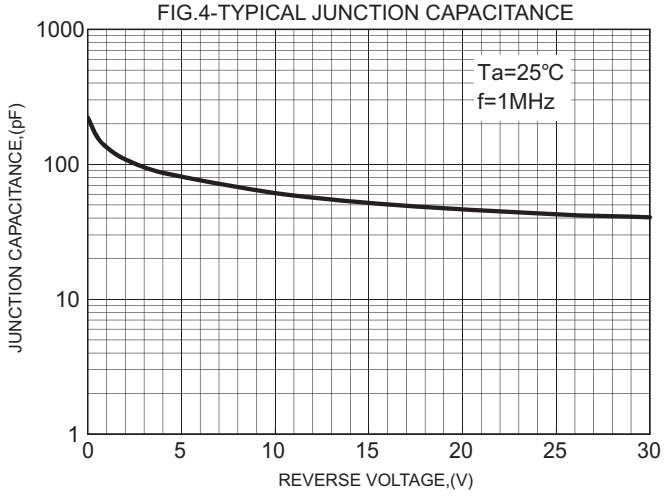
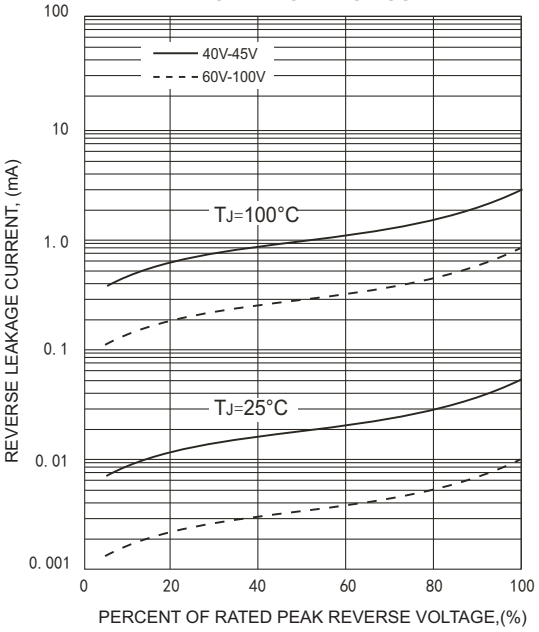
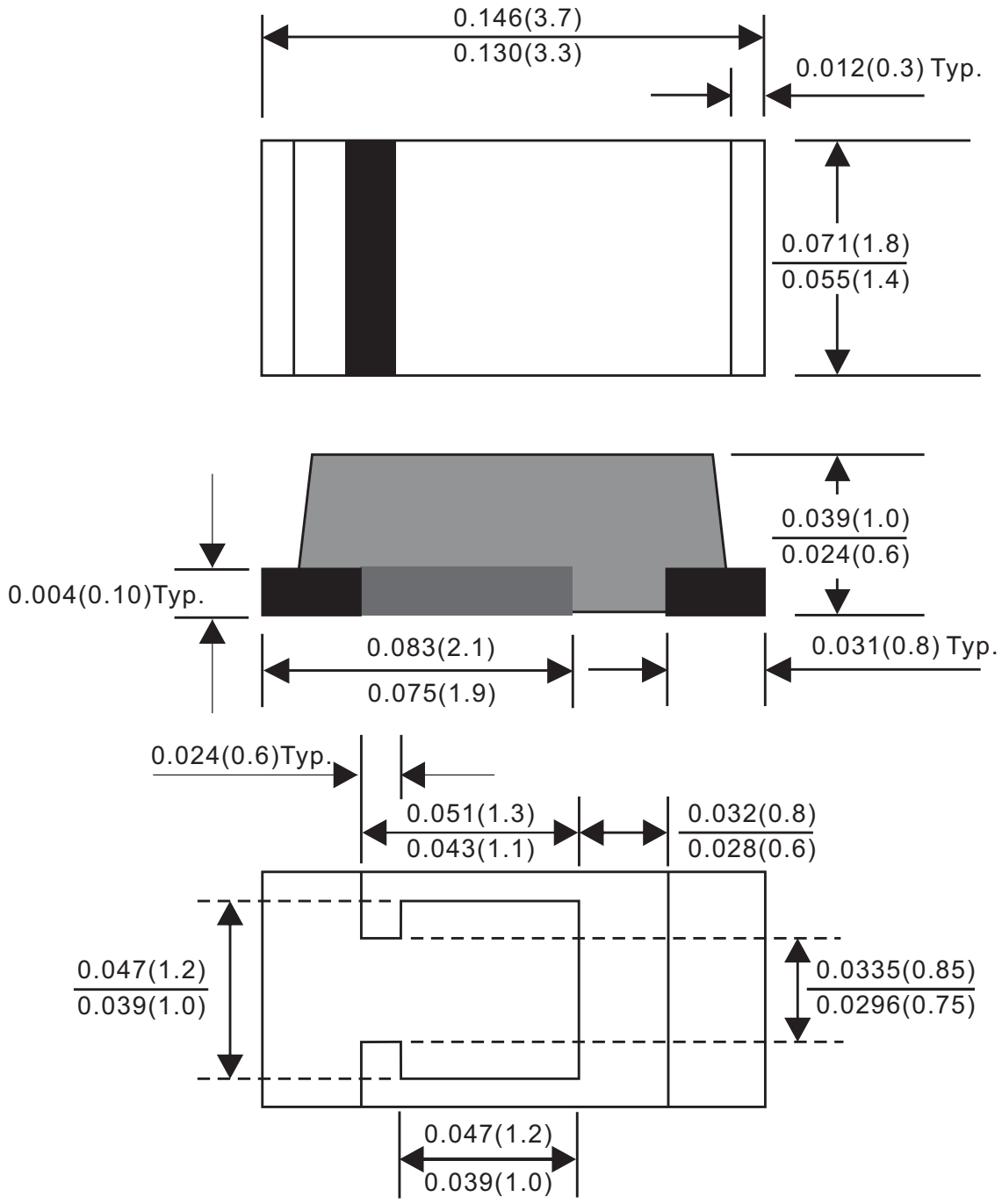



FIG.5 - TYPICAL REVERSE CHARACTERISTICS



# Outline Drawing

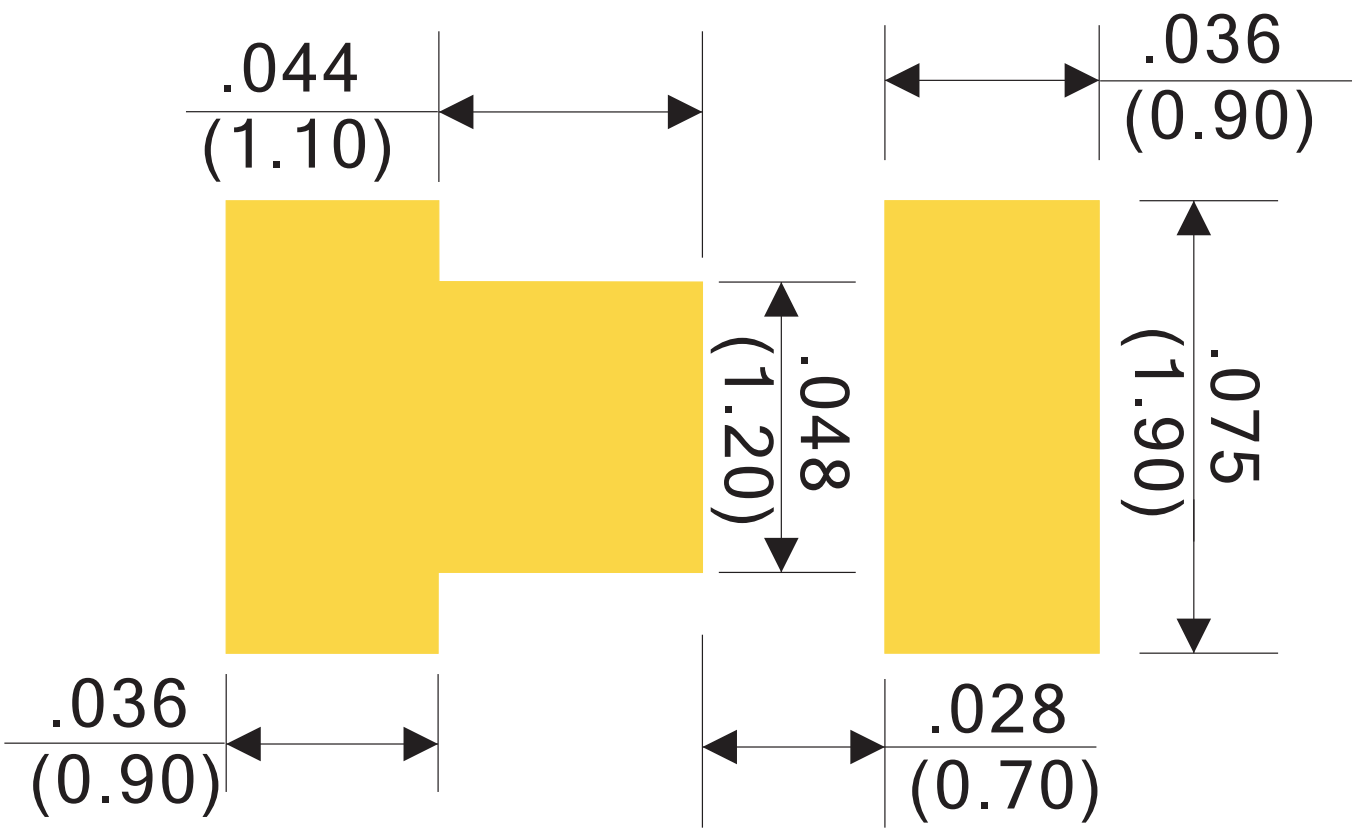
# SOD-123HT




Dimensions in inches and (millimeters)

Rev.A

| Suggested Soldering Pad Layout | SOD-123HT |
|---|---|




Dimensions in inches and (millimeters)

RevA

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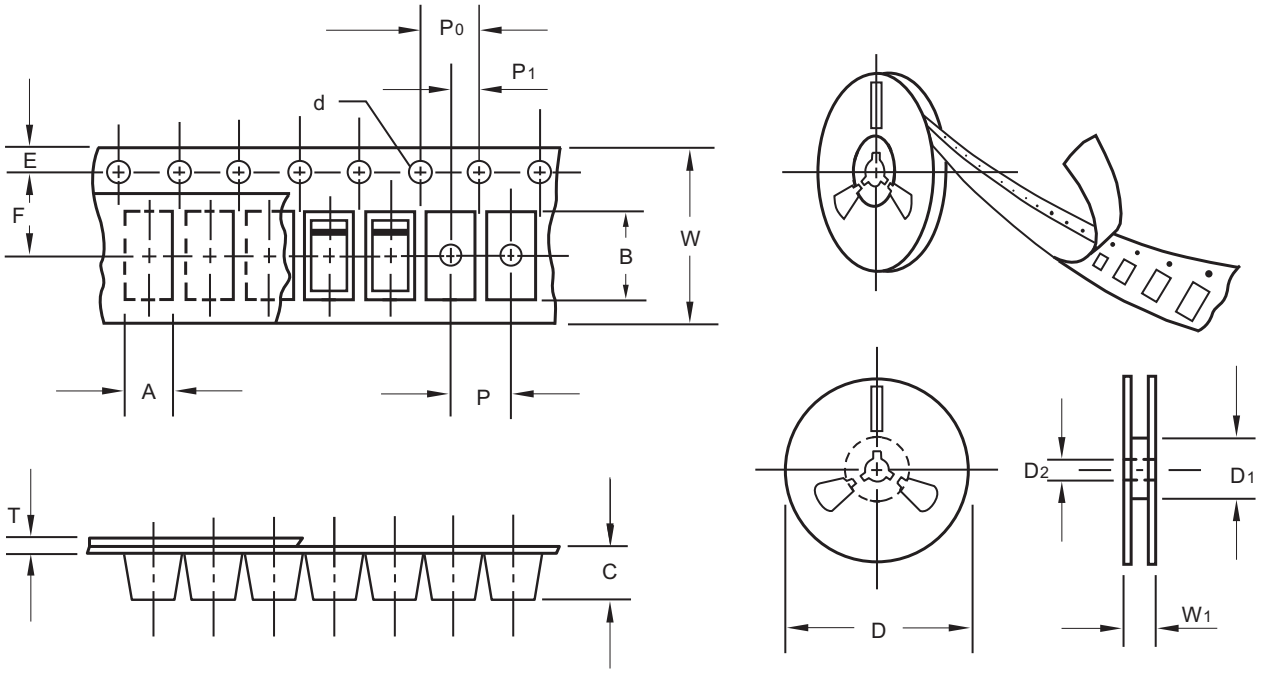
## Reel packing




unit:mm

| Item | Symbol | Tolerance | SOD-123HT |
|---|---|---|---|
| Carrier width | A | 0.1 | 2.00 |
| Carrier length | B | 0.1 | 3.85 |
| Carrier depth | C | 0.1 | 1.10 |
| Sprocket hole | d | 0.1 | 1.50 |
| 13" Reel outside diameter | D | 2.0 | - |
| 13" Reel inner diameter | $D_1$ | min | - |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | $D_1$ | min | 62.00 |
| Feed hole diameter | $D_2$ | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | $P_0$ | 0.1 | 4.00 |
| Embossment center | $P_1$ | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.23 |
| Tape width | W | 0.3 | 8.00 |
| Reel width | $W_1$ | 1.0 | 11.40 |

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

## Ordering Information:

| Device PN | Packing |
|---|---|
| Part Number -T(1)H(2)-WS | Tape&Reel: 3 Kpcs/Reel |

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

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