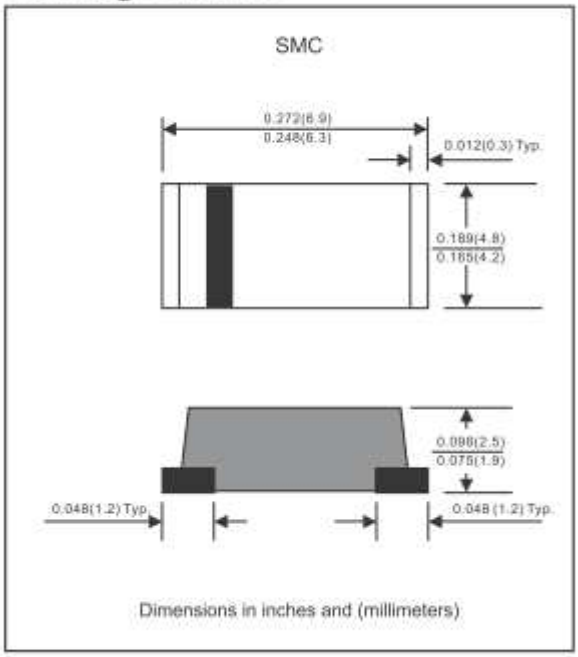
# ECCP301-ECCP308

## 3.0A Surface Mount General Purpose Rectifiers - 50V-1300V

## Features

◆Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
◆Low profile surface mounted application in order to optimize board space.
◆High current capability.
◆High surge capability.
◆Glass passivated chip junction.
◆Lead-free parts meet environmental standards of MIL-STD-19500 /228
◆Suffix "H" indicates Halogen-free parts, ex. ECCP301L1HR.

## Package outline




## Mechanical Data

◆ Epoxy : UL94-V0 rated flame retardant
◆ Case : Molded plastic, DO-214AB / SMA
◆ Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
◆ Polarity : Indicated by cathode band
◆ Mounting Position : Any
◆ Weight : Approximated 0.19 gram

## Maximum ratings and Electrical Characteristics (At $T_A$=25 °C unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Forward rectified current | See Fig.2 | $I_O$ | | | 3.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$ | | | 100 | A |
| Reverse current | $V_R = V_{RRM}$ $T_J$ = 25 ℃ | $I_R$ | | | 5.0 | μA |
| | $V_R = V_{RRM}$ $T_J$ = 125 ℃ | | | | 250 | |
| Typical thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 30 | | ℃/W |
| | Junction to case | $R_{\theta JC}$ | | 15 | | |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | $C_J$ | | 40 | | pF |
| Storage temperature | | $T_{STG}$ | -55 | | +175 | ℃ |

| SYMBOLS | *1 VRRM (V) | *2 VRMS (V) | *3 VR (V) | *4 VF (V) | Operating temperature $T_J$, (℃) |
|---|---|---|---|---|---|
| ECCP301 | 50 | 35 | 50 | 1.10 | -55 to +150 |
| ECCP302 | 100 | 70 | 100 | | |
| ECCP303 | 200 | 140 | 200 | | |
| ECCP304 | 400 | 280 | 400 | | |
| ECCP305 | 600 | 420 | 600 | | |
| ECCP306 | 800 | 560 | 800 | | |
| ECCP307 | 1000 | 700 | 1000 | | |
| ECCP308 | 1300 | 910 | 1300 | | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@$I_F$=3.0A

## Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

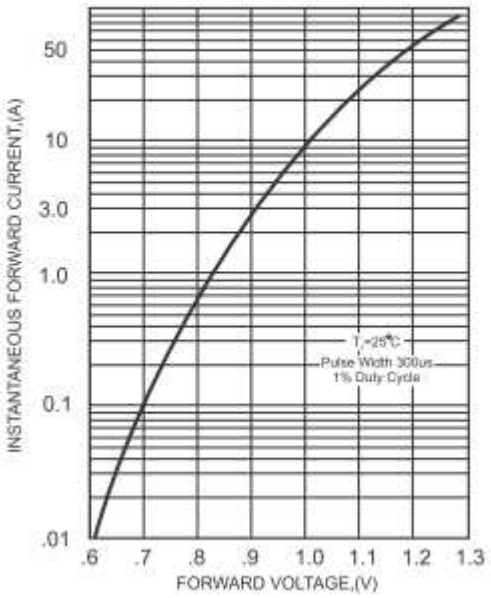



FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

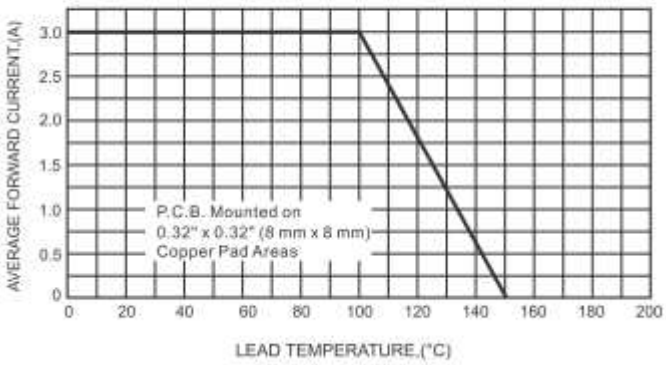


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

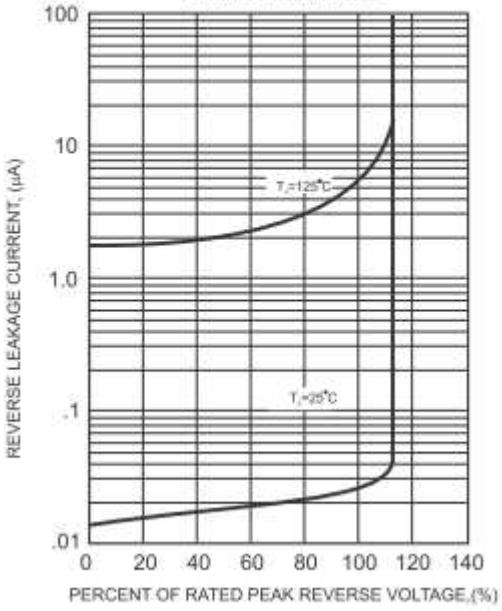



FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

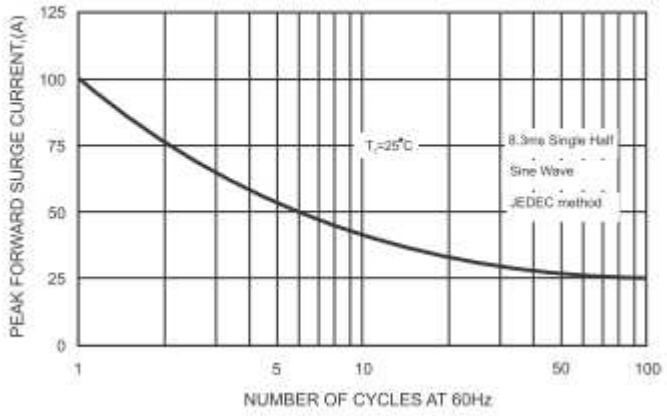
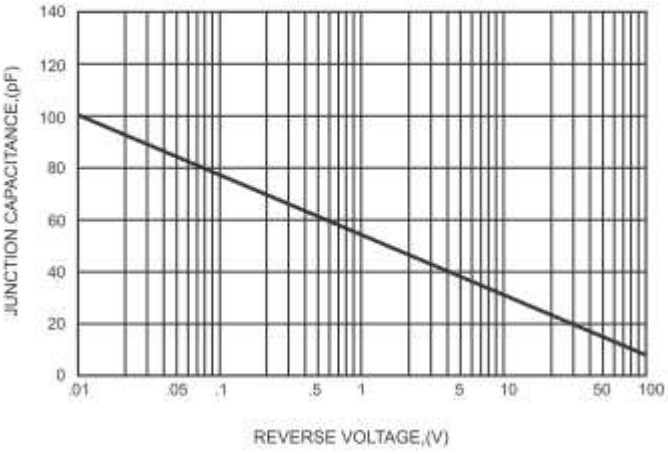



FIG.5-TYPICAL JUNCTION CAPACITANCE




## Pinning information

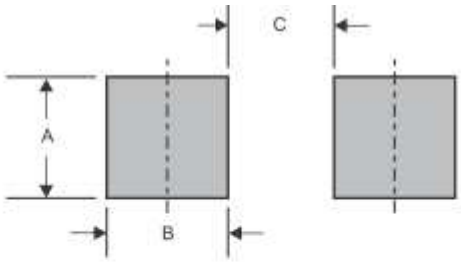
| Pin | Simplified outline | Symbol |
|---|---|---|
| Pin1 cathode<br>Pin2 anode |  |  |

## Marking

| Part No | Marking |
|---|---|
| ECCP301L1R / ECCP301L1**H**R | A31 |
| ECCP302L1R/ ECCP302L1**H**R | A32 |
| ECCP303L1R/ ECCP303L1**H**R | A33 |
| ECCP304L1R/ ECCP304L1**H**R | A34 |
| ECCP305L1R/ ECCP305L1**H**R | A35 |
| ECCP306L1R/ ECCP306L1**H**R | A36 |
| ECCP307L1R/ ECCP307L1**H**R | A37 |
| ECCP308L1R/ ECCP308L1**H**R | A38 |

H: Halogen free

## Suggested solder pad layout



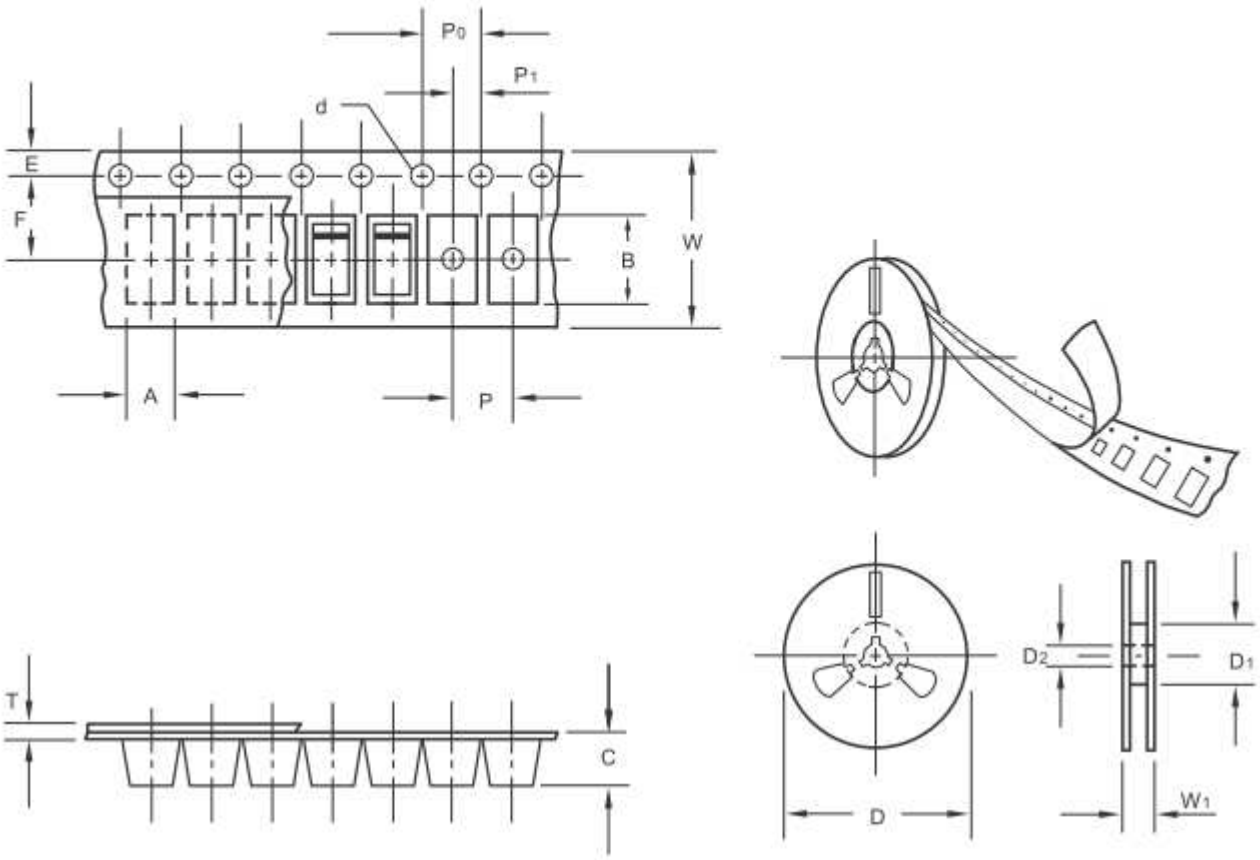

Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---|---|---|---|
| SMC | 0.189 (4.80) | 0.063 (1.60) | 0.158 (4.00) |

## 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) | APPROX. GROSS WEIGHT (kg) |
|---|---|---|---|---|---|---|---|---|---|
| SMC | 13" | 3,000 | 8.0 | 6,000 | 337*337*37 | 330 | 350*330*360 | 48,000 | 17.2 |

## Packing information




unit:mm

| Item | Symbol | Tolerance | SMC |
|---|---|---|---|
| Carrier width | A | 0.1 | 5.10 |
| Carrier length | B | 0.1 | 7.20 |
| Carrier depth | C | 0.1 | 2.50 |
| Sprocket hole | d | 0.1 | 1.50 |
| 13" Reel outside diameter | D | 2.0 | 330.00 |
| 13" Reel inner diameter | $D_1$ | min | 50.00 |
| 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 | 5.50 |
| Punch hole pitch | P | 0.1 | 8.00 |
| 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 | 12.00 |
| Reel width | $W_1$ | 1.0 | 18.00 |

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