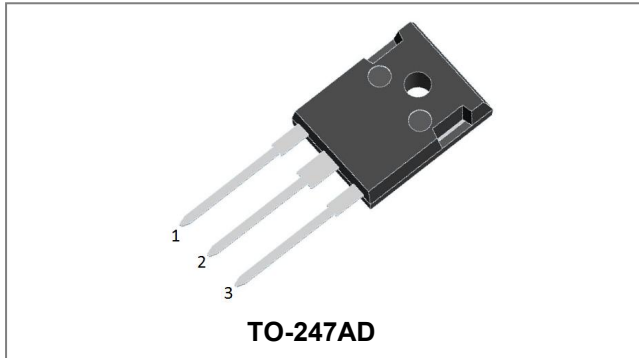


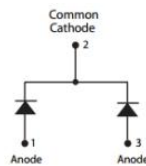
30CPQ050/30CPQ060 SCHOTTKY RECTIFIER



Features

- 150 °C T_J operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|------------------------------------------------------|--------------------|--------------------------------------------------------------|-------------------------------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | - | 50(30CPQ050) | V |
| Working Peak Reverse Voltage | V _{RWM} | | 60(30CPQ060) | |
| DC Blocking Voltage | V _R | | | |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _c =112°C, rectangular wave form | 15(Per Leg) 30(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse, T _c = 25 °C | 315 | A |

Electrical Characteristics:

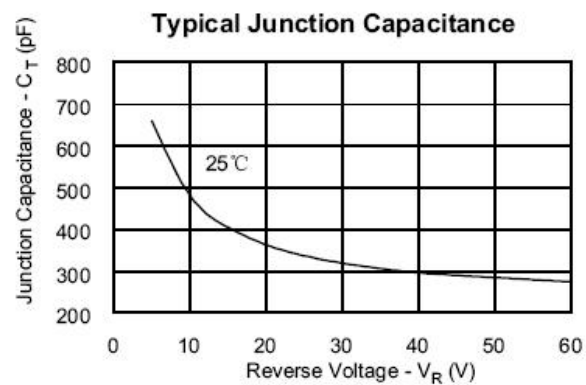
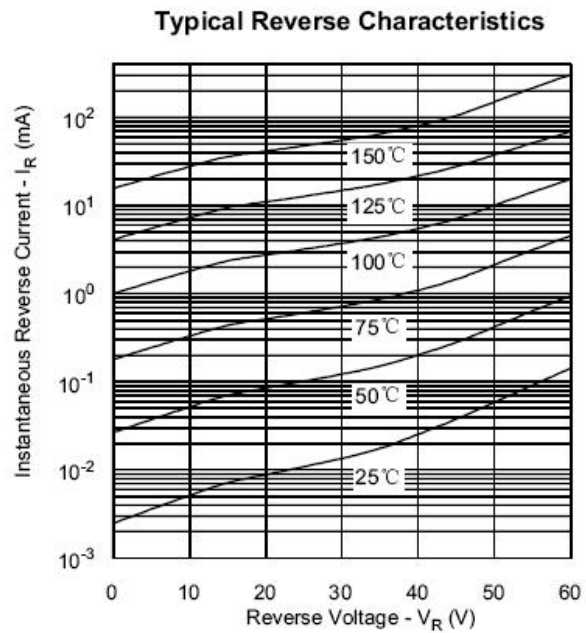
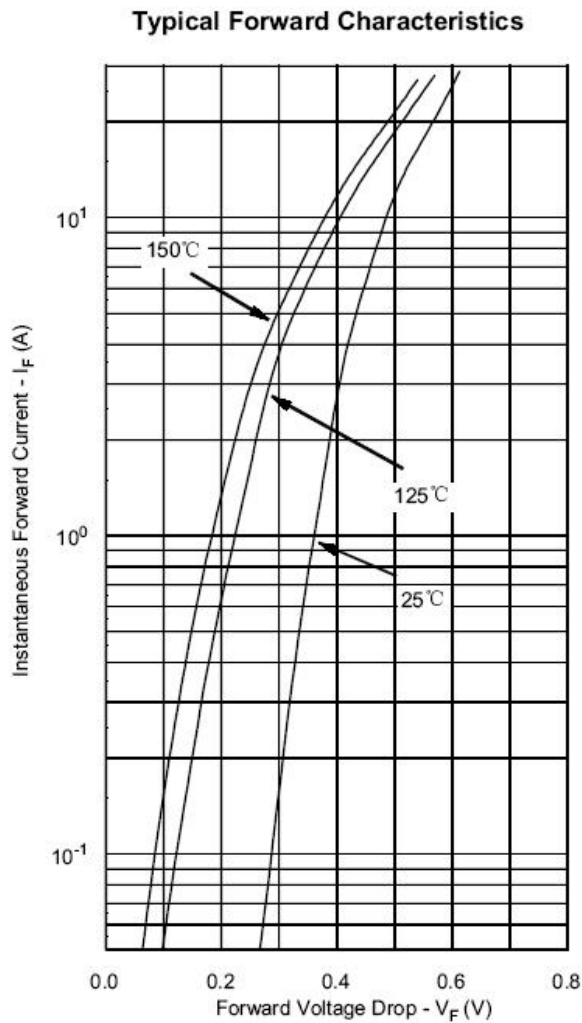
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|---------------------------------|-----------------|-------------------------------------------------------------------------|------|--------|-------|
| Forward Voltage Drop (Per Leg)* | V _{F1} | @ 15A, Pulse, T _J = 25 °C | 0.55 | 0.60 | V |
| | | @ 30A, Pulse, T _J = 25 °C | 0.61 | 0.80 | |
| Reverse Current (Per Leg)* | I _{R1} | @V _R = rated V _R T _J = 25 °C | 0.2 | 0.8 | mA |
| | | @V _R = rated V _R T _J = 125 °C | 70 | 100 | |
| Junction Capacitance(Per Leg) | C _T | @V _R = 5V, T _c = 25 °C f _{SIG} = 1MHz | 650 | 720 | pF |
| Voltage Rate of Change | dv/dt | - | - | 10,000 | V/μs |

* Pulse width < 300 μs, duty cycle < 2%

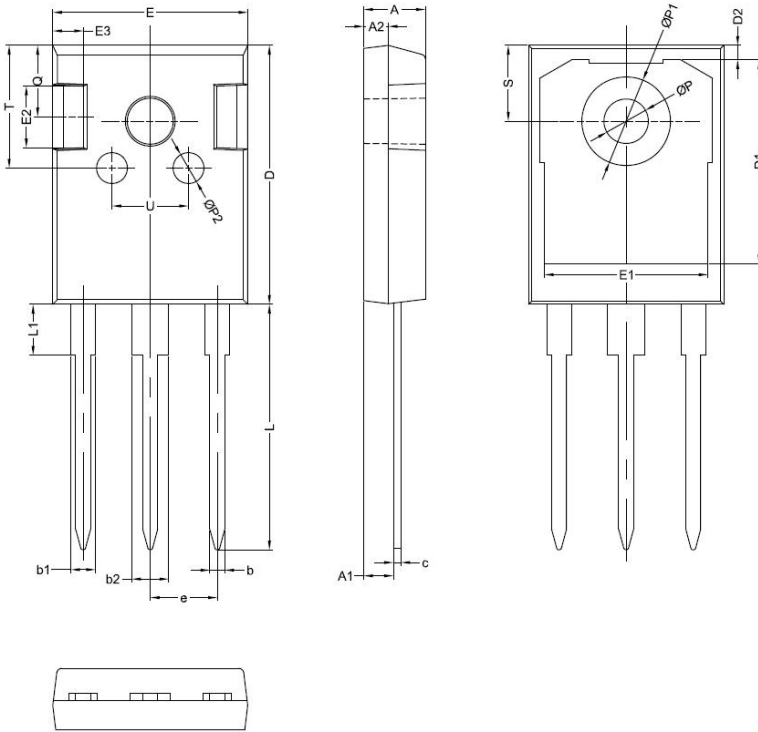
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|-----------------------------------------------|-----------------|--------------------------------------|----------------------------------|-------|
| Junction Temperature | T_J | - | -55 to +150 | °C |
| Storage Temperature | T_{stg} | - | -55 to +150 | °C |
| Typical Thermal Resistance Junction to Case | $R_{\theta JC}$ | DC operation | 2.2(Peg Leg) 1.10(Peg Device) | °C/W |
| Typical Thermal Resistance, case to Heat Sink | $R_{\theta cs}$ | Mounting surface, smooth and greased | 0.24 | °C/W |
| Approximate Weight | wt | - | 6.28 | g |
| Case Style | TO-247AD | | | |

Ratings and Characteristics Curves



Mechanical Dimensions TO-247AD



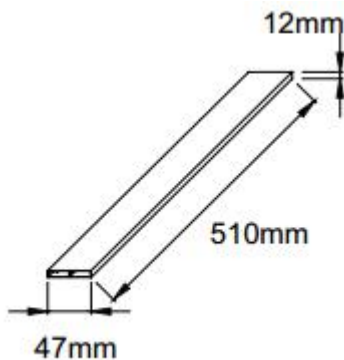
| SYMBOL | Millimeters | | |
|--------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 4.80 | 5.00 | 5.20 |
| A1 | 2.20 | 2.41 | 2.61 |
| A2 | 1.90 | 2.00 | 2.10 |
| b | 1.10 | 1.20 | 1.40 |
| b1 | 1.80 | 2.00 | 2.20 |
| b2 | 2.80 | 3.00 | 3.20 |
| c | 0.50 | 0.60 | 0.75 |
| D | 20.30 | 21.00 | 21.20 |
| D1 | | 16.55 | |
| D2 | | 1.20 | |
| E | 15.45 | 15.80 | 16.00 |
| E1 | | 13.30 | |
| E2 | | 5.00 | |
| E3 | | 2.50 | |
| e | | 5.44 | |
| L | 19.42 | 19.92 | 20.70 |
| L1 | | 4.13 | |
| P | 3.50 | 3.60 | 3.70 |
| P1 | 7.1 | | 7.40 |
| P2 | | 2.50 | |
| Q | | 5.80 | |
| S | 6.05 | 6.15 | 6.25 |
| T | | 10.00 | |
| U | | 6.20 | |

Ordering Information:

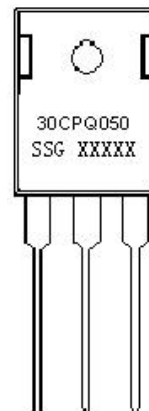
| Device | Package | Shipping |
|---------------|-------------------|--------------|
| 30CPQ050(060) | TO-247AD(Pb-Free) | 25pcs / tube |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- 30 = Forward Current (30A)
- C = Configuration
- PQ = Device Type
- 050 = Reverse Voltage (50V)
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

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