

**2N5060 THRU 2N5064****SILICON CONTROLLED RECTIFIERS  
0.8 AMP, 30 THRU 200 VOLT**
[www.centralemi.com](http://www.centralemi.com)

The CENTRAL SEMICONDUCTOR 2N5060 series devices are epoxy molded SCRs designed for control systems and sensing circuit applications.

**TO-92 CASE****MARKING: FULL PART NUMBER****MAXIMUM RATINGS:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

|                                                               | SYMBOL             | 2N5060 | 2N5061 | 2N5062      | 2N5063 | 2N5064 | UNITS                |
|---------------------------------------------------------------|--------------------|--------|--------|-------------|--------|--------|----------------------|
| Peak Repetitive Off-State Voltage                             | $V_{DRM}, V_{RRM}$ | 30     | 60     | 100         | 150    | 200    | V                    |
| RMS On-State Current (Note 1; $T_C=80^{\circ}\text{C}$ )      | $I_T(\text{RMS})$  |        |        | 0.8         |        |        | A                    |
| Average On-State Current (Note 1; $T_C=67^{\circ}\text{C}$ )  | $I_T(\text{AV})$   |        |        | 0.51        |        |        | A                    |
| Average On-State Current (Note 1; $T_C=102^{\circ}\text{C}$ ) | $I_T(\text{AV})$   |        |        | 0.255       |        |        | A                    |
| Peak One Cycle Surge Current (60Hz)                           | $I_{TSM}$          |        |        | 10          |        |        | A                    |
| $I^2t$ Value for Fusing ( $t=8.3\text{ms}$ )                  | $I^2t$             |        |        | 0.4         |        |        | $\text{A}^2\text{s}$ |
| Peak Forward Gate Power ( $t_p \leq 1.0\mu\text{s}$ )         | $P_{GM}$           |        |        | 0.1         |        |        | W                    |
| Average Forward Gate Power ( $t=8.3\text{ms}$ )               | $P_{G(\text{AV})}$ |        |        | 0.01        |        |        | W                    |
| Peak Forward Gate Current ( $t_p \leq 1.0\mu\text{s}$ )       | $I_{GM}$           |        |        | 1.0         |        |        | A                    |
| Peak Reverse Gate Voltage ( $t_p \leq 1.0\mu\text{s}$ )       | $V_{RGM}$          |        |        | 5.0         |        |        | V                    |
| Operating Junction Temperature                                | $T_J$              |        |        | -40 to +125 |        |        | $^{\circ}\text{C}$   |
| Storage Temperature                                           | $T_{stg}$          |        |        | -40 to +150 |        |        | $^{\circ}\text{C}$   |
| Thermal Resistance (Note 2)                                   | $\theta_{JC}$      |        |        | 75          |        |        | $^{\circ}\text{C/W}$ |
| Thermal Resistance                                            | $\theta_{JA}$      |        |        | 200         |        |        | $^{\circ}\text{C/W}$ |

Notes: 1)  $180^{\circ}$  Conduction Angles

2) Measured with the "flat side down" on a heatsink and held in position by a metal clamp over the curved surface.

**ELECTRICAL CHARACTERISTICS:** ( $T_C=25^{\circ}\text{C}$  unless otherwise noted)

| SYMBOL             | TEST CONDITIONS                                                                          | MIN | TYP | MAX | UNITS                  |
|--------------------|------------------------------------------------------------------------------------------|-----|-----|-----|------------------------|
| $I_{DRM}, I_{RRM}$ | $V_D=\text{Rated } V_{DRM}, R_{GK}=1.0\text{k}\Omega$                                    |     |     | 10  | $\mu\text{A}$          |
| $I_{DRM}, I_{RRM}$ | $V_D=\text{Rated } V_{DRM}, R_{GK}=1.0\text{k}\Omega, T_C=110^{\circ}\text{C}$           |     |     | 50  | $\mu\text{A}$          |
| $I_{GT}$           | $V_D=7.0\text{V}, R_L=100\Omega$                                                         |     |     | 200 | $\mu\text{A}$          |
| $I_{GT}$           | $V_D=7.0\text{V}, R_L=100\Omega, T_C=-40^{\circ}\text{C}$                                |     |     | 350 | $\mu\text{A}$          |
| $I_H$              | Initiating Current, $I_T=20\text{mA}, R_{GK}=1.0\text{k}\Omega$                          |     |     | 5.0 | mA                     |
| $I_H$              | Initiating Current, $I_T=20\text{mA}, R_{GK}=1.0\text{k}\Omega, T_C=-40^{\circ}\text{C}$ |     |     | 10  | mA                     |
| $V_{GT}$           | $V_D=7.0\text{V}, R_L=100\Omega$                                                         |     |     | 0.8 | V                      |
| $V_{GT}$           | $V_D=7.0\text{V}, R_L=100\Omega, T_C=-40^{\circ}\text{C}$                                |     |     | 1.2 | V                      |
| $V_{GD}$           | $V_D=\text{Rated } V_{DRM}, R_L=100\Omega, T_C=110^{\circ}\text{C}$                      | 0.1 |     |     | V                      |
| $V_{TM}$           | $I_{TM}=1.2\text{A}, T_A=25^{\circ}\text{C}$                                             |     |     | 1.7 | V                      |
| $dv/dt$            | $V_D=\text{Rated } V_{DRM}, R_{GK}=1.0\text{k}\Omega$                                    |     | 30  |     | $\text{V}/\mu\text{s}$ |

R5 (7-May 2015)

# 2N5060 THRU 2N5064

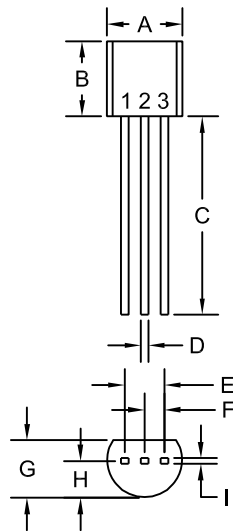
## SILICON CONTROLLED RECTIFIERS 0.8 AMP, 30 THRU 200 VOLT



**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_C=25^{\circ}\text{C}$  unless otherwise noted)

| SYMBOL | TEST CONDITIONS                                                                                                                                        | 2N5060<br>2N5061 | 2N5062<br>2N5063<br>2N5064 | UNITS         |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|---------------|
|        |                                                                                                                                                        | TYP              | TYP                        |               |
| $t_d$  | $V_D=\text{Rated } V_{DRM}, I_{GT}=1.0\text{mA},$                                                                                                      | 3.0              | 3.0                        | $\mu\text{s}$ |
| $t_r$  | Forward Current=1.0A, $di/dt=6.0\text{A}/\mu\text{s}$                                                                                                  | 0.2              | 0.2                        | $\mu\text{s}$ |
| $t_q$  | Forward Current=1.0A, $t_p=50\mu\text{s},$<br>0.1% Duty Cycle, $di/dt=6.0\text{A}/\mu\text{s},$<br>$dv/dt=20\text{V}/\mu\text{s}, I_{GT}=1.0\text{mA}$ | 10               | 30                         | $\mu\text{s}$ |

### TO-92 CASE - MECHANICAL OUTLINE



R1

| SYMBOL  | DIMENSIONS |             | MIN   | MAX  |
|---------|------------|-------------|-------|------|
|         | INCHES     | MILLIMETERS |       |      |
| A (DIA) | 0.175      | 0.205       | 4.45  | 5.21 |
| B       | 0.170      | 0.210       | 4.32  | 5.33 |
| C       | 0.500      | -           | 12.70 | -    |
| D       | 0.016      | 0.022       | 0.41  | 0.56 |
| E       | 0.100      | 2.54        |       |      |
| F       | 0.050      | 1.27        |       |      |
| G       | 0.125      | 0.165       | 3.18  | 4.19 |
| H       | 0.080      | 0.105       | 2.03  | 2.67 |
| I       | 0.015      | 0.38        |       |      |

TO-92 (REV: R1)

#### LEAD CODE:

- 1) Cathode
- 2) Gate
- 3) Anode

#### MARKING:

FULL PART NUMBER

R5 (7-May 2015)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

---

### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

---

### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)