



**THE DATASHEET OF  
2N5062 PBFREE**



2N5060 THRU 2N5064

SILICON CONTROLLED RECTIFIERS  
0.8 AMP, 30 THRU 200 VOLT



www.centrasemi.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
$I_{DRM}, I_{RRM}$	$V_D$ =Rated $V_{DRM}$ , $R_{GK}=1.0\text{k}\Omega$			10	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	$V_D$ =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
$V_{GD}$	$V_D$ =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
$dv/dt$	$V_D$ =Rated $V_{DRM}$ , $R_{GK}=1.0\text{k}\Omega$		30		$\text{V}/\mu\text{s}$

R5 (7-May 2015)

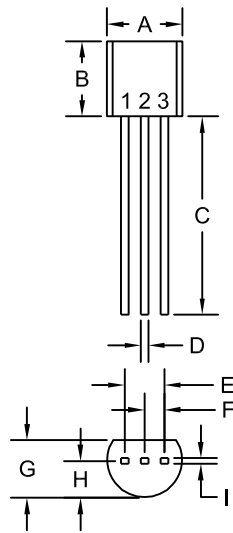
**2N5060 THRU 2N5064**  
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**0.8 AMP, 30 THRU 200 VOLT**



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

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

**TO-92 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
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**

R1

R5 (7-May 2015)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

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- SPICE models
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- 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

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### 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).

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### CONTACT US

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