

BRX44 BRX47  
BRX45 BRX48  
BRX46 BRX49

SILICON CONTROLLED RECTIFIER  
0.8 AMP, 30 THRU 400 VOLTS



TO-92 CASE

**Central**<sup>TM</sup>  
Semiconductor Corp.

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BRX44 series types are PNP Silicon Controlled Rectifiers manufactured in a TO-92 case, designed for control systems and sensing circuit applications.

**MARKING CODE: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

	SYMBOL	BRX44	BRX45	BRX46	BRX47	BRX48	BRX49	UNITS
Peak Repetitive Off-State Voltage	$V_{DRM}, V_{RRM}$	30	60	100	200	300	400	V
RMS On-State Current ( $T_C=40^\circ\text{C}$ )	$I_T(\text{RMS})$				0.8			A
Average On-State Current ( $T_C=40^\circ\text{C}$ )	$I_T(\text{AV})$				0.5			A
Nonrept. On-State Current ( $T_C=60^\circ\text{C}$ )	$I_{TSM}$				10			A
Fusing Current ( $t=10\text{ms}$ )	$I^2t$				0.24			A <sup>2</sup> s
Peak Reverse Gate Voltage ( $I_{GR}=10\mu\text{A}$ )	$V_{GRM}$				8.0			V
Peak Gate Current ( $t=10\mu\text{s}$ )	$I_{GM}$				1.0			A
Peak Gate Dissipation ( $t=10\mu\text{s}$ )	$P_{GM}$				2.0			W
Gate Dissipation ( $t=20\text{ms}$ )	$P_G(\text{AV})$				0.1			W
Operating and Storage								
Junction Temperature	$T_J, T_{stg}$				-40 to +125			$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$				100			$^\circ\text{C/W}$
Thermal Resistance	$\theta_{JA}$				200			$^\circ\text{C/W}$

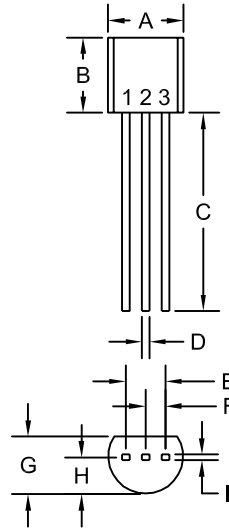
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=25^\circ\text{C}$		1.0	$\mu\text{A}$
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$		0.1	mA
$V_{TM}$	$I_T=1.0\text{A}$		1.7	V
$I_{GT}$	$V_D=6.0\text{V}, R_L=10\Omega$		200	$\mu\text{A}$
$V_{GT}$	$V_D=6.0\text{V}, R_L=10\Omega$		0.8	V
$I_H$	$R_{GK}=1.0\text{K}\Omega$		5.0	mA
$I_L$	$R_{GK}=1.0\text{K}\Omega$		6.0	mA
dv/dt	$V_D=0.67\text{V} \times V_{DRM}, R_{GK}=1.0\text{K}\Omega, T_C=125^\circ\text{C}$	100		V/ $\mu\text{s}$
di/dt	$I_G=10\text{mA}, di_G/dt=0.1\text{A}/\mu\text{s}, T_C=125^\circ\text{C}$	30		A/ $\mu\text{s}$

R0 (27-April 2004)

**SILICON CONTROLLED RECTIFIER**  
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**TO-92 CASE - MECHANICAL OUTLINE**



R1

**LEAD CODE:**

- 1) ANODE
- 2) GATE
- 3) CATHODE

**MARKING CODE:**

**FULL PART NUMBER**

SYMBOL	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)

## 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.

- 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

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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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