

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Characteristics	Symbol	Value	Units
Peak repetitive forward and reverse blocking voltage⁽¹⁾ ($T_J = 25$ to 125°C , $R_{GK} = 1000\Omega$) BRX44 BRX45 BRX46 BRX47 BRX49	V_{DRM}, V_{RRM}	30 60 100 200 400	Volts
Forward current RMS (all conduction angles)	$I_{T(RMS)}$	0.8	Amps
Peak forward surge current ($T_A = 25^\circ\text{C}$, $\frac{1}{2}$ cycle, sine wave, 60Hz)	I_{TSM}	8	Amps
Circuit fusing considerations ($T_A = 25^\circ\text{C}$, $t = 8.3\text{ms}$)	I^2t	0.15	A^2s
Forward peak gate power ($T_A = 25^\circ\text{C}$)	P_{GM}	0.1	Watt
Forward peak gate current ($T_A = 25^\circ\text{C}$) (300 μs , 120 PPS)	I_{GM}	1	Amps
Peak reverse gate voltage	V_{GRM}	5	Volts
Operating junction temperature range @ rated V_{RRM} and V_{DRM}	T_J	-40 to +125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40 to +150	$^\circ\text{C}$
Lead solder temperature (<1.5mm from case, 10 sec. max.)		+230	$^\circ\text{C}$
Thermal Resistance, junction to case	$R_{\theta JC}$	75	$^\circ\text{C}/\text{W}$
Thermal Resistance, junction to ambient	$R_{\theta JA}$	200	$^\circ\text{C}/\text{W}$

Note 1: V_{DRM} and V_{RRM} for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $R_{GK} = 1000\Omega$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Units
Peak forward blocking current ($V_D = \text{rated } V_{DRM}$ @ $T_C = 125^\circ\text{C}$)	I_{DRM}	-	100	μA
Peak reverse blocking current ($V_R = \text{rated } V_{RRM}$ @ $T_C = 125^\circ\text{C}$)	I_{RRM}	-	100	μA
Forward "on" voltage⁽²⁾ ($I_{TM} = 1\text{A}$ peak @ $T_A = 25^\circ\text{C}$)	V_{TM}	-	1.7	Volts
Gate trigger current (continuous dc) ⁽³⁾ (Anode voltage = 7V, $R_L = 100\Omega$, $T_C = 25^\circ\text{C}$)	I_{GT}	-	200	μA

BRX44-BRX49

SILICON CONTROLLED RECTIFIER

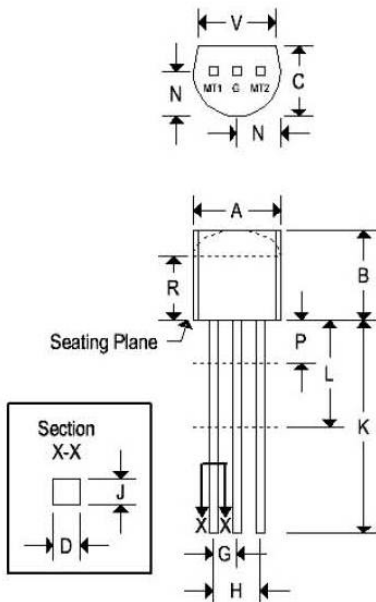
ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $R_{GK} = 1000\Omega$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Units
Gate trigger voltage (continuous dc) (Anode voltage = 7V, $R_L = 100\Omega$) (Anode voltage = rated V_{DRM} , $R_L = 100\Omega$) $T_C = 25^\circ\text{C}$ $T_C = -40^\circ\text{C}$ $T_C = 125^\circ\text{C}$	V_{GT}	- - 0.1	0.8 1.2 -	Volts
Holding current (Anode voltage = 7V, initiating current = 20mA) $T_C = 25^\circ\text{C}$ $T_C = -40^\circ\text{C}$	I_H	- -	5 10	mA

Note 2: Forward current applied for 1 ms maximum duration, duty cycle $\leq 1\%$.
 Note 3: R_{GK} current is not included in measurement.

MECHANICAL CHARACTERISTICS

Case	TO-92
Marking	Body painted, alpha-numeric
Pin out	See below

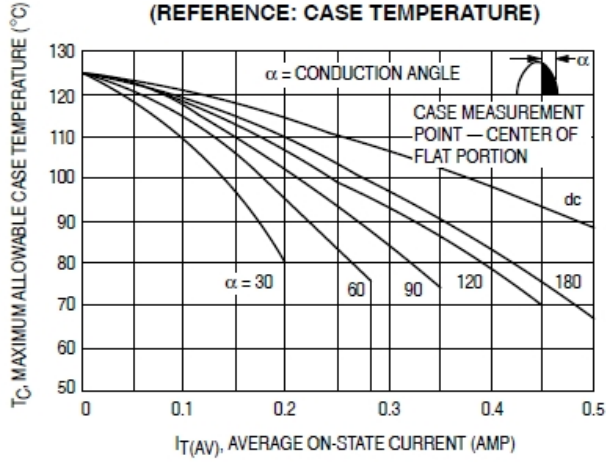


	TO-92			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.175	0.205	4.450	5.200
B	0.170	0.210	4.320	5.330
C	0.125	0.165	3.180	4.190
D	0.016	0.022	0.410	0.550
F	0.016	0.019	0.410	0.480
G	0.045	0.055	1.150	1.390
H	0.095	0.105	2.420	2.660
J	0.015	0.020	0.390	0.500
K	0.500	-	12.700	-
L	0.250	-	6.350	-
N	0.090	0.105	2.040	2.660
P	-	0.100	-	2.540
R	0.115	-	2.930	-
V	0.135	-	3.430	-

BRX44-BRX49

SILICON CONTROLLED RECTIFIER

**FIGURE 1 — CURRENT DERATING
(REFERENCE: CASE TEMPERATURE)**



**FIGURE 2 — CURRENT DERATING
(REFERENCE: AMBIENT TEMPERATURE)**

