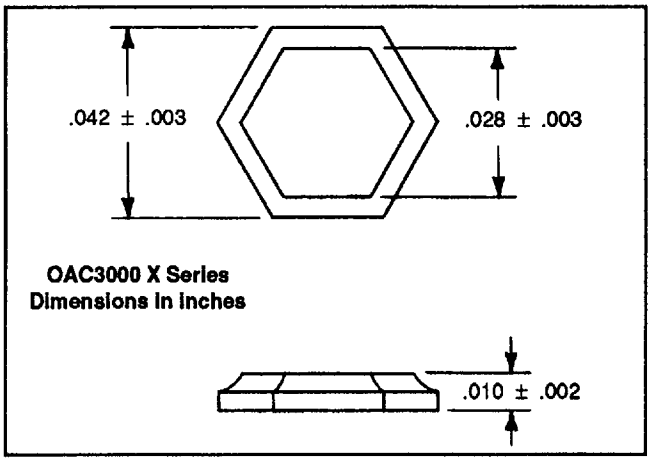
OPTEK

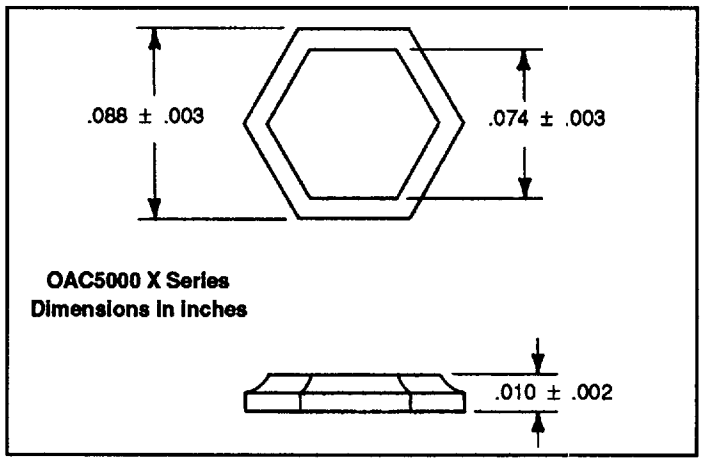
T-03-05

Product Bulletin OAC3000
March 1990

Extra Fast Recovery Rectifier Die
OAC3000/OAC5000 Series



OAC3000 X Series
Dimensions in Inches



OAC5000 X Series
Dimensions in Inches

Features

- Contact metallization for wire bond and surface mount package construction:
  Top Metal: Alloy Aluminum (Cathode)
  Back Metal: Alloy Gold (Anode)
- Junction Sealing: Three layer passivation silicon dioxide, silicon nitride and high temperature glass for maximum reliability.
- Mesa construction for high surge capability.
- Optek's extra fast recovery switching rectifier die exhibit the fastest t_{rr} available. This speed is coupled with low leakages and low V_f.
- Gold alloy back metal is suitable for eutectic or epoxy die attach process.
- Aluminum top metallization is ideal for a wide variety of wire bonding techniques.

Electrical Characteristics T_A = 25°C (unless otherwise noted)

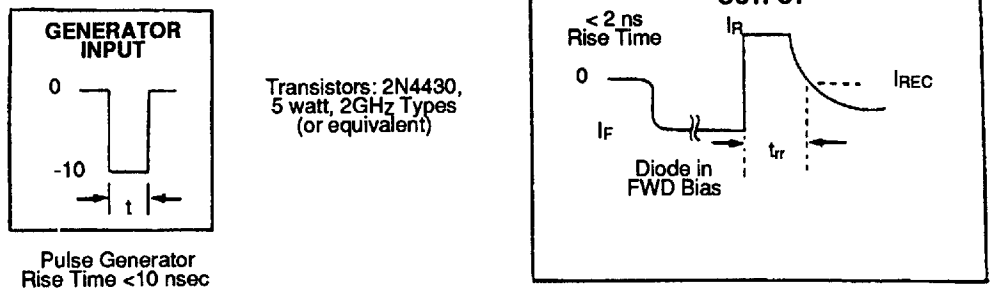
Part No.	Spec V_R Volts	t_{rr} 1/2-1-1/4 A[1] Nom nSec	Max nSec	Max I_R @ V_R[1] 25°C µA	100°C µA	Max[1] Co pF	V_F Max Volts	Rated I_F Adc
OAC3000 X Series								
3400 X	400	20	30	10	160	50	1.5	1.0
3500 X	500	20	30	10	160	50	1.8	1.0
3600 X	600	35	50	10	160	40	1.8	1.0
3700 X	700	35	50	10	160	40	1.8	1.0
3800 X	800	50	75	10	160	40	1.8	1.0
31000 X	1000	70	100	10	160	35	1.8	1.0
OAC5000 X Series								
5400 X	400	20	30	20	700	250	1.5	4.0
5500 X	500	20	30	20	700	225	1.8	4.0
5600 X	600	35	50	20	700	200	1.8	4.0
5700 X	700	35	50	20	700	200	1.8	4.0
5800 X	800	50	75	20	700	175	1.8	4.0
51000 X	1000	70	100	20	700	150	1.8	4.0

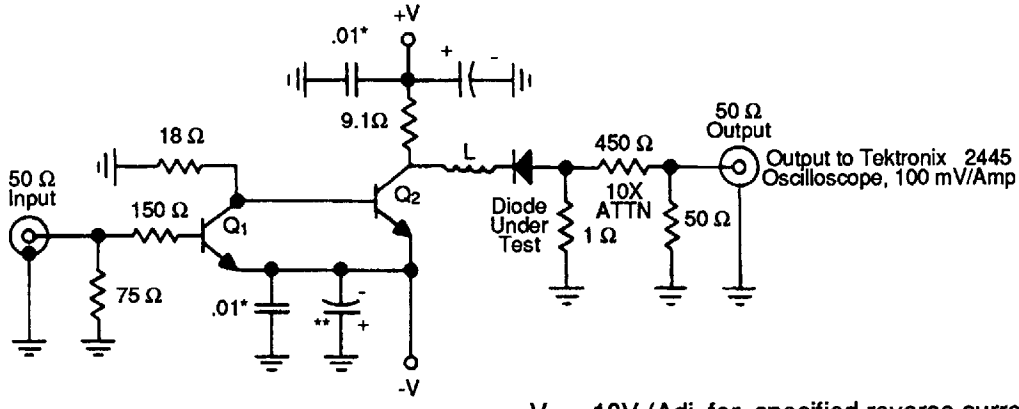
[1] Electrical parameter verified by wafer lot evaluation.

Optek Technology, Inc. 1215 W. Crosby Road, Carrollton, Texas 75006 (214) 323-2200 TLX 323-2200 Fax (214) 323-239

OAC3000/OAC5000 Series

Reverse Recovery Time Test Circuit





V+ ≅ 10V (Adj. for specified reverse current)
V- ≅ -3.5V (Adj. for specified forward current)

t > > t_{rr} to be measured

* Add .01 µf ceramic chip capacitors in parallel to minimize noise.
** Solid tantalum capacitors only. 100 µf 20 volts
L = Slight inductance to null out overshoot - must trim (about 1/2" .040 copper wire).

All resistors - non-inductive. Preferably chip resistors layed on microwave strip line board. Critical inductance values are paralleled to help reduce inductance.

Note: Lead lengths of 1/8" or more will cause serious ringing effects. Layout is critical.

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