

DESCRIPTION

This device was designed as a target for the T7610 EBS Digitizer tube, which is used in the 7612D Waveform Digitizer instrument. The die is approximately 250 x 40 mils. in size and contains 10 adjacent diodes, each 230 mils. long by 1.26 mils. wide, formed by a boron diffusion on an N-Type epitaxial substrate. The active area of the diodes is covered by a pattern of thick and thin aluminum in the form of a digital gray code.

For the Digitizer application, die are attached to an alumina substrate which is mounted on a special header and sealed to an electron tube. In operation the diodes are reverse biased and bombarded by an electron beam. An output signal is obtained from a diode when the beam penetrates a thin metal area. The combined outputs of all of the diodes provides an 8-bit digital code which is dependent on the beam position.

Forward Bias (at 1 mA)	. . . . .	1 Volt Maximum
Reverse Bias Breakdown (at 1 $\mu$ A)	. . . . .	30 Volts Maximum
Reverse Leakage (20 Volt Bias)	. . . . .	30 $\mu$ A Maximum
Interdiode Leakage (at 10 Volts)	. . . . .	100 $\mu$ A Maximum
Diode Capacitance (11.5 Volt Bias)	. . . . .	5 pF Maximum

DESIGNER . . . . . Ray Hayes

INSTRUMENT USAGE . . . . . 7612D