



**General
Semiconductor
Industries, Inc.**

SQUARE D COMPANY

**BIDIRECTIONAL
SURGE
SUPPRESSORS**

**GHV-2
THRU
GHV-16**

T-11-23

CASE 19

MAXIMUM RATINGS

- Steady State Power: 1 Watt at 50° C.
- $t_{clamping}$ (0 volts to BV min): Less than 1×10^{-6} second (theoretical)
- Operating and Storage temperatures: -65° to +150° C
- Surge: 30 Amps, 8.4 msec
100 Amps, 1.0 msec
(exponential decay to 50%)

MECHANICAL CHARACTERISTICS

- Molded case
- Solderable leads
- Body marked with Logo and type number

APPLICATION

The GHV series devices are silicon transient voltage suppressors designed for protection against large voltage transients on signal lines. They are low capacitance, low noise devices which can be used directly across the input of analog and digital circuitry with minimum signal loss.

Their small size and high surge current capability make them ideal suppressors for telephone and CATV repeaters, replacing typical device series "strings" which consume much needed space. The device has been proven effective in lightning environments.

DESCRIPTION

The GHV series products combines the technology of forward biased P-N junction device, stacked to provide

DESCRIPTION CONT'D

symmetrical voltage characteristics of a non-biased resistor. An additional feature of this method of manufactured low voltage protection, is the reduction of capacitance for low voltage signal line protection.

FIGURE 1—Voltage Current Characteristic Curves

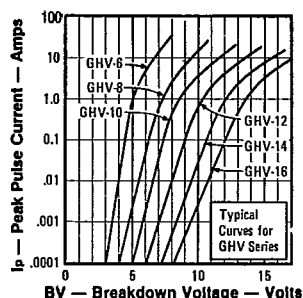
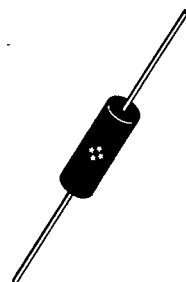
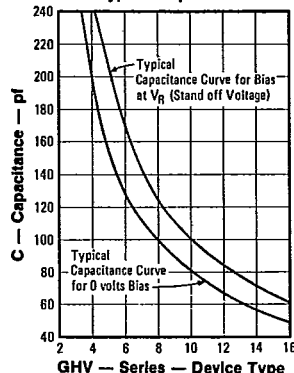
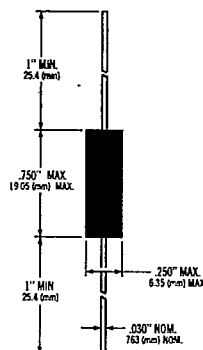


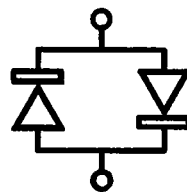
FIGURE 2—Typical Capacitance Curves



CASE OUTLINE



SCHEMATIC



ELECTRICAL CHARACTERISTICS @ 25° C (Both Polarities)

GS PART NUMBER	BREAKDOWN VOLTAGE @ 10 mA BV±5%	STAND-OFF VOLTAGE VR	MAXIMUM LEAKAGE CURRENT @ VR	MAXIMUM CAPACITANCE @ 0 V, 1MHz	TYPICAL TEMP. COEFF. OF BV
	VOLTS	VOLTS	μA	pF	mv/°C
GHV-2	1.33	.8	10	517	-4
GHV-3	2.0	1.2	10	319	-6
GHV-4	2.7	1.6	10	259	-8
GHV-5	3.3	2.0	10	191	-10
GHV-6	4.0	2.4	10	159	-12
GHV-7	4.7	2.8	10	140	-14
GHV-8	5.4	3.2	10	130	-16
GHV-9	6.0	3.6	10	114	-18
GHV-10	6.7	4.0	10	102	-20
GHV-11	7.3	4.4	10	93	-22
GHV-12	8.0	4.8	10	86	-24
GHV-13	8.7	5.2	10	79	-26
GHV-14	9.4	5.6	10	74	-28
GHV-15	10.0	6.0	10	67	-30
GHV-16	10.7	6.4	10	62	-32

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