



GC41873-012S
CONTROL DEVICES -
MONOLITHIC SPST PIN
RoHS Compliant

GENERAL DESCRIPTION

The GC41873-012S is a single chip silicon monolithic series/shunt element. The parasitic inductance is minimized in this design resulting in wide band, low loss, high isolation performance.

The back metallization on the monolithic chip is designed to be used with normal solder or epoxy die attach methods.

Only pad bonds are needed to mount the monolithic device.

This product meets RoHS requirements per EU Directive 2002/95/EC. The standard terminal finish is gold unless otherwise specified. Consult the factory if you have special requirements.

APPLICATIONS

This shunt/series monolithic switching element provides optimum insertion loss and isolation characteristics from 2-18 GHz. It replaces the conventional shunt mounted chip and series mounted beam lead pin diode normally used in the manufacture of broadband microwave switches.

The large bonding pads facilitate ease of installation and high production yield with little danger of device degradation at assembly due to bonding trauma. Additionally, power handling ability is enhanced by the superior heat conduction path inherent in the series part of the element.

KEY FEATURES

- Monolithic SPST PIN switch element
- Wide Band (2-18 GHz)
- Low Insertion Loss (< 1.5 dB at 18 GHz)
- High Isolation (>30 dB at 18 GHz)
- Hermetic Structure
- Rugged Silicon Monolithic Design
- Fast Switching (5 nSec Typical)
- 0.02 pF Typical Series Junction
- 0.10 pF Typical Shunt Junction
- RoHS Compliant

APPLICATION/BENEFITS

- 2 - 18 GHz switching
- Improved power handling

ABSOLUTE MAXIMUM RATINGS @ 25°C

Rating	Symbol	Value	Unit
Minimum Rated Breakdown Voltage	V _B	80	V
Storage Temperature	T _{stg}	-65 to +200	°C
Operating Temperature	T _{op}	-55 to +150	°C

For the most current data, consult MICROSEMI's website: www.MICROSEMI.com
Specifications are subject to change, consult the RFIS factory at (978) 442-5600 for the latest information.

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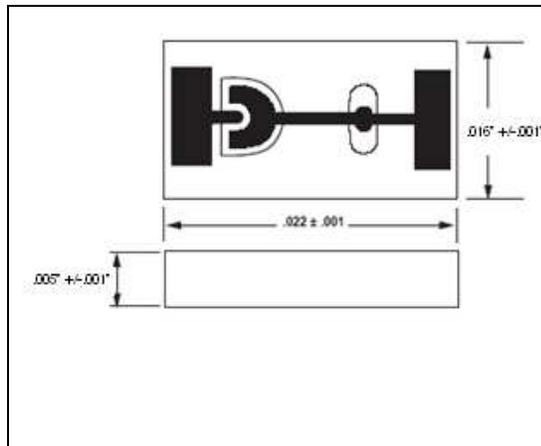


These devices are ESD sensitive and must be handled using ESD precautions.

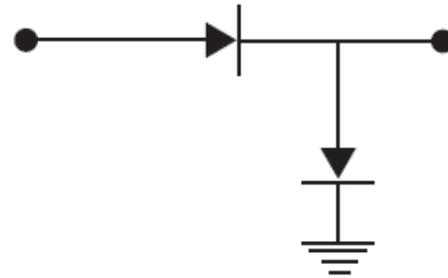
ELEMENT CHARACTERISTICS @ 25°C

ELEMENT	V_b (V) $I_R=10\mu A$	C_T (pF) @50V	R_s (Ω) $I_F=100mA$ $F=1.0GHz$	T_L (nS)	V_F (V) $I_F=10 mA$	THERMAL RESISTANCE (°C/W)
	(Min)	(Typ)	(Max)	(Typ)	(Typ)	(Typ)
SERIES ELEMENT	80	0.02	2.5	40	1.05	70
SHUNT ELEMENT	80	0.10	0.8	60	0.85	20

PACKAGE STYLE 012S



SCHEMATIC



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