

# KCB801

High Isolation SPST

DC – 6 GHz



## Features

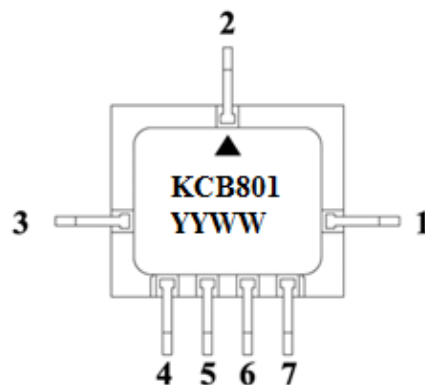
- Wideband frequency range: DC to 6 GHz
- Isolation: 55dB @ 2 GHz
- Non Reflective
- High Reliability Class B and S Screening Available
- See Page 3 for Hi –Rel Ordering Details

## Description

The KCB801 is a GaAs FET Non Reflective high performance, High Isolation switch.

The KCB801 uses Hermetic Surface-Mount Technology (SMT) for Defense and Satellite application.

The device can be supplied and tested to the screening requirements of MIL-PRF-38535 Class B and S, in addition to the required QCI.



1	RF 2
2	GND
3	RF 1
4	GND
5	A
6	B
7	GND

## Electrical Characteristics ( +25°C)

Parameter	Conditions	Min.	Typ.	Max.	Units
Insertion Loss	DC – 1.0 GHz			1.1	dB
	DC – 2.0 GHz			1.2	dB
	DC – 4.0 GHz			1.6	dB
	DC – 6.0 GHz			2.2	dB
Return Loss (I/O)	DC – 1.0 GHz			1.3:1	dB
	DC – 2.0 GHz			1.5:1	dB
	DC – 4.0 GHz			1.8:1	dB
	DC – 6.0 GHz			2.0:1	dB
Isolation	DC – 1.0 GHz	60			dB
	DC – 2.0 GHz	55			dB
	DC – 4.0 GHz	50			dB
	DC – 6.0 GHz	40			dB
Input Power for 1 dB Output Compression Vctl = -5V	> 500 MHz		+21		dBm
Third Order Output Intercept Point (IP3) Vctl = 0V/5V, 0.5 - 2.0 GHz	Two Tone input power = 13 dBm per tone > 500 MHz		+42		dBm
Switching Characteristics	10/90% or 90/10% RF		6		nS
	50%CTL to 90/10% RF		10		nS

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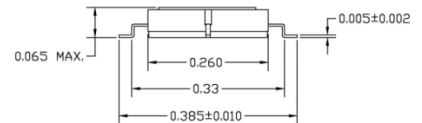
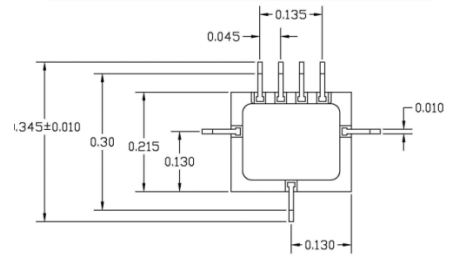
DC – 6 GHz



## Absolute Maximum Ratings

Characteristic	Min Value	Max Value	Units
Control Voltages (A+B)	-8.0	+0.2	Volts
RF Input Power		+30	dBm
Storage Temperature	-55	+150	° C
Operating Case Temp	-55	+125	° C

## Outline Drawing



## Truth Table / Control Voltages

Control Input		Signal Path State
A	B	RF1 to RF2
High	Low	ON
Low	High	OFF

State	Bias Conditions
Low	+0.2 to -1.0V @ 50 µA Max.
High	-8V to -5V @ 200 µA Typ.

## Screening Flow

Test Inspection	MIL – STD -883		Requirement	
	Method	Condition	Class B	Class S
Wafer Lot Acceptance	5007		N/A	Per Wafer Lot
Non-Destructive Bond Pull	2023		Process under Statistical Control	Process under Statistical Control
Internal Visual	2010	A= Class S B = Class B	100%	100%
Temperature Cycle	1010	C	100%	100%
Acceleration	2001	E (Y1 only)	100%	100%
PIND	2020	A ( 5 Cycles)	N/A	100%
Serialization	Per Product Specification		N/A	100%
Radiographic	2012		N/A	100%
Electrical Test	Per Product Specification	+25°C	100%	100%
Burn In	1015	A	100% 80 Hours @ 150°C	100%
Final Electrical	Per Product Specification	+25°C	100%	100%
Group A Electrical	Per Product Specification	-55°C + 125°C	45/0	45/0
Seal				
Fine Leak	1014	A	100%	100%
Gross Leak		C		
External Visual	2009		100%	100%

## Ordering Information

KCB Solutions Part Number	Screening Level
KCB801C	Unscreened
KCB801B	Class B Screening
KCB801S	Class S Screening