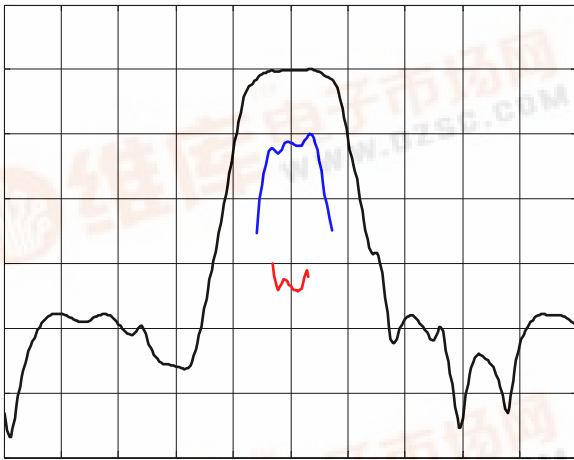




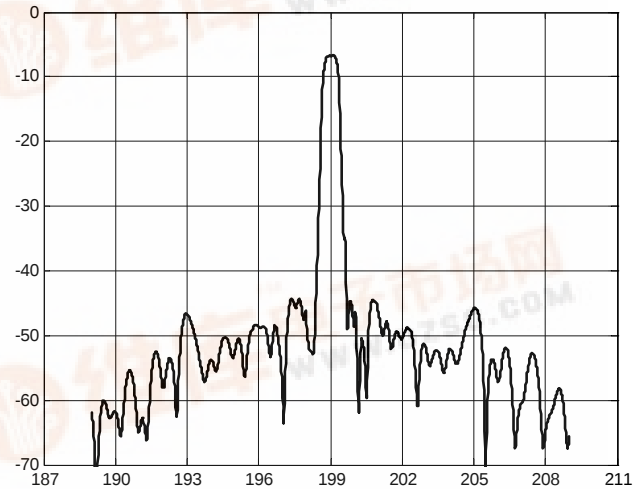
**Integrated
Circuit
Systems, Inc.**

199 MHz Filter
0.200 MHz Bandwidth for GSM BTS Receiver IF
Part Number SF0199CD02382S

TYPICAL PERFORMANCE



Horizontal: 0.40 MHz/div
Vertical (from top): Magnitude 10 dB/div
Magnitude 1 dB/div
Group Delay 500 ns/div



Horizontal: 3.0 MHz/div
Vertical: Magnitude 10 dB/div

SPECIFICATION

Parameter	Min	Typ	Max	Units
Normal Center Frequency F_c		199.00		MHz
Insertion Loss at F_c ¹		7	8	dB
1 dB Bandwidth	200	470		KHz
Passband Ripples over $F_c \pm 100$ KHz		0.25	0.5	dB p-p
Group Delay Ripples over $F_c \pm 100$ KHz		175	500	ns p-p
Rejection, $F_c \pm (0.600 \text{ to } 0.800)$ MHz	20			dB
Rejection, $F_c \pm (0.800 \text{ to } 17.00)$ MHz	30			dB
Rejection, $F_c \pm (17.00 \text{ to } 80.00)$ MHz	35	52		dB
Operating Temperature Range	-35		+85	° C
Impedance Matching to 50 Ω Unbalanced	External L-C			
Impedance Matching to 200 Ω Balanced	External L-C			

Note: 1. All dB values are referenced to the insertion loss value at F_c .



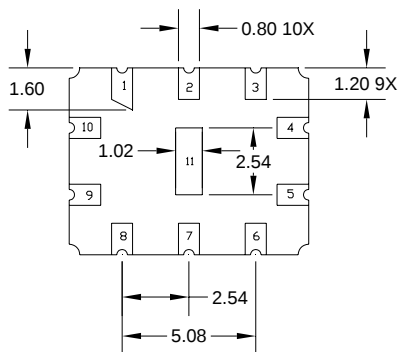
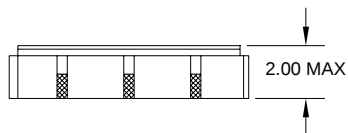
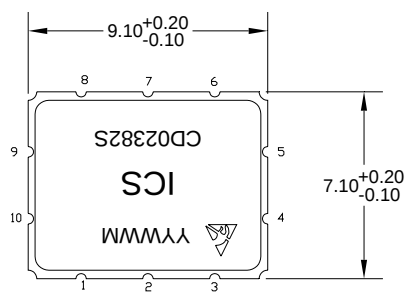


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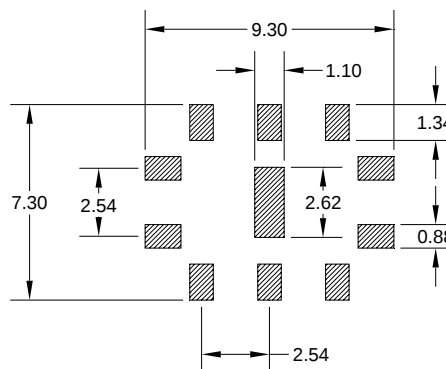
199 MHz Filter
0.200 MHz Bandwidth for GSM BTS Receiver IF
Part Number SF0199CD02382S

PACKAGE AND SUGGESTED PCB FOOTPRINT

PACKAGE INFORMATION



SUGGESTED PCB FOOTPRINT

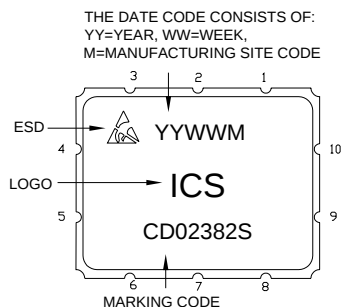


PIN NO.	DESCRIPTION
3	INPUT
2	INPUT RETURN
8	OUTPUT
7	OUTPUT RETURN
1,4,5,6,9,10,11	GROUND

NOTES:
DIMENSIONS SHOWN ARE NOMINAL IN MILLIMETERS. ALL TOLERANCES ARE ± 0.15 MM EXCEPT OVERALL LENGTH AND WIDTH

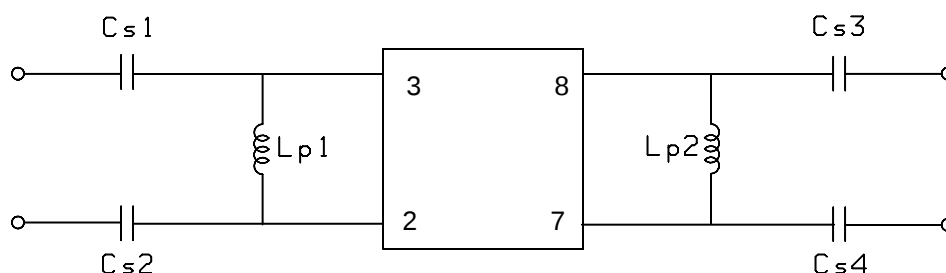
Package Material:
Body: Al_2O_3 ceramic
Lid: Kovar, Ni plated
Terminations: Au plating 0.5-1.0 μ m, over a 2-6 μ m Ni plating

MARKING





MATCHING CIRCUIT for Balanced, 200 Ω Impedance at Both Input and Output



Typical component values: $Cs1 = Cs2 = 3.3 \text{ pF}$ $Cs3 = Cs4 = 4.7 \text{ pF}$
 $Ls1 = 72 \text{ nH}$ $Ls2 = 68 \text{ nH}$

Note:

Component values may change depending on PCB layout and parasitic.

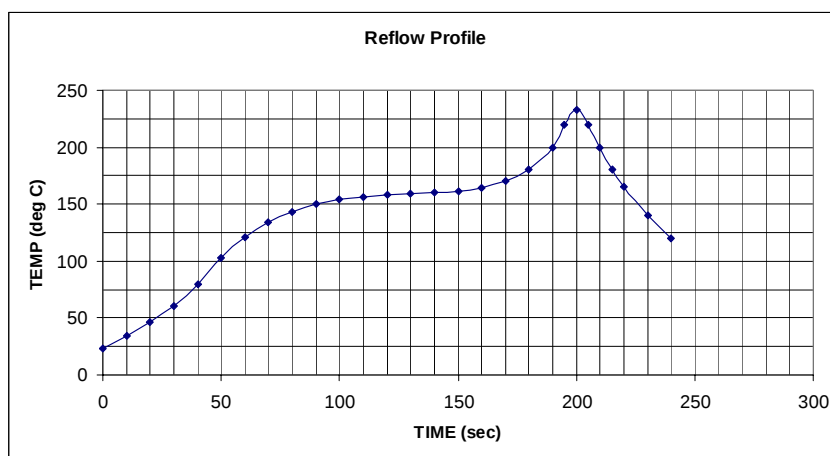
MAXIMUM RATINGS

Parameter	Min	Max	Units
Operating Temperature Range	-35	+85	$^{\circ}\text{C}$
Storage Temperature Range	-45	+85	$^{\circ}\text{C}$
Maximum Input Power Level		20	dBm
D. C. Voltage between Each Terminal		15	V



PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Parameter	Qualification Conditions
Life Testing	High temperature bake at +85 °C for 168 hours.
Temperature Cycling	MIL-STD 883, Method 1010: -40 °C to +85 °C, 10 cycles, 10 minutes dwell at temperature extremes
Vibration	MIL-STD-202, Method 201A: 10 to 55 Hz, double amplitude of 0.06" for 2 hours in each axis.
Mechanical Shock	MIL-STD-883, Method 2002, Test Condition B: 1500 g's, 3 impacts each axis
Solder Heat Resistance and Reflow Condition	Peak temperature 240+/-5 °C for 10 seconds. Pre-heat: 150-170 °C for 60 to 90 seconds. Peak dwell: over 200 °C for 23 to 26 seconds. Handling: Class 1 per MIL-STD-1686 Reflow Profile is shown at the bottom of this table.
Lead Integrity	MIL-STD 883 Method 2004, Condition D 8 oz for 30 seconds.
Solderability	MIL-STD-883 Method 2003: 245 °C +/-5 °C; 95% coverage; no steam aging
Hermeticity	MIL-STD 883 Method 1014: Condition A2 and Condition C (no bomb)
ESD Classification	Class I per MIL-STD-883 Method 3015
Precautions	Do not subject devices to ultrasonic cleaning, which may cause deterioration and destruction of the device.



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