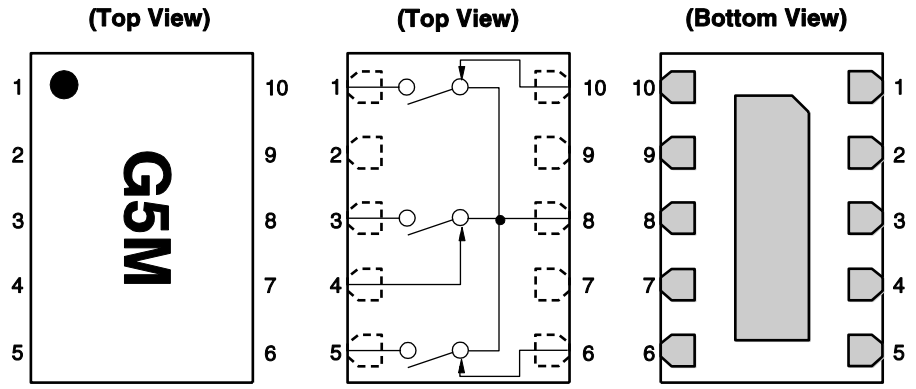
PIN CONNECTIONS AND INTERNAL BLOCK DIAGRAM



Pin No.	Pin Name
1	RF1
2	GND
3	RF2
4	$V_{cont}2$
5	RF3
6	$V_{cont}3$
7	GND
8	ANT
9	GND
10	$V_{cont}1$

Remark Exposed pad : GND

TRUTH TABLE

$V_{cont}1$	$V_{cont}2$	$V_{cont}3$	ANT–RF1	ANT–RF2	ANT–RF3
High	Low	Low	ON	OFF	OFF
Low	High	Low	OFF	ON	OFF
Low	Low	High	OFF	OFF	ON

ABSOLUTE MAXIMUM RATINGS (T_A = +25°C, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Switch Control Voltage	V_{cont}	+6.0 **Note**	V
Input Power	P_{in}	+34	dBm
Operating Ambient Temperature	T_A	–45 to +85	°C
Storage Temperature	T_{stg}	–55 to +150	°C

Note $|V_{cont\,(H)} - V_{cont\,(L)}| \leq 6.0$ V

RECOMMENDED OPERATING RANGE (T_A = +25°C)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Switch Control Voltage (H)	$V_{cont\ (H)}$	2.7	2.8	3.0	V
Switch Control Voltage (L)	$V_{cont\ (L)}$	–0.2	0	0.2	V
Control Voltage Difference (H)	$\Delta V_{cont\ (H)}$ **Note1**	–0.1	0	0.1	V
Control Voltage Difference (L)	$\Delta V_{cont\ (L)}$ **Note2**	–0.1	0	0.1	V

Notes 1. $\Delta V_{cont\ (H)}$ is a difference between the maximum and the minimum control voltages among $V_{cont}1_{(H)}$, $V_{cont}2_{(H)}$ and $V_{cont}3_{(H)}$.

2. $\Delta V_{cont\ (L)}$ is a difference between the maximum and the minimum control voltages among $V_{cont}1_{(L)}$, $V_{cont}2_{(L)}$ and $V_{cont}3_{(L)}$.

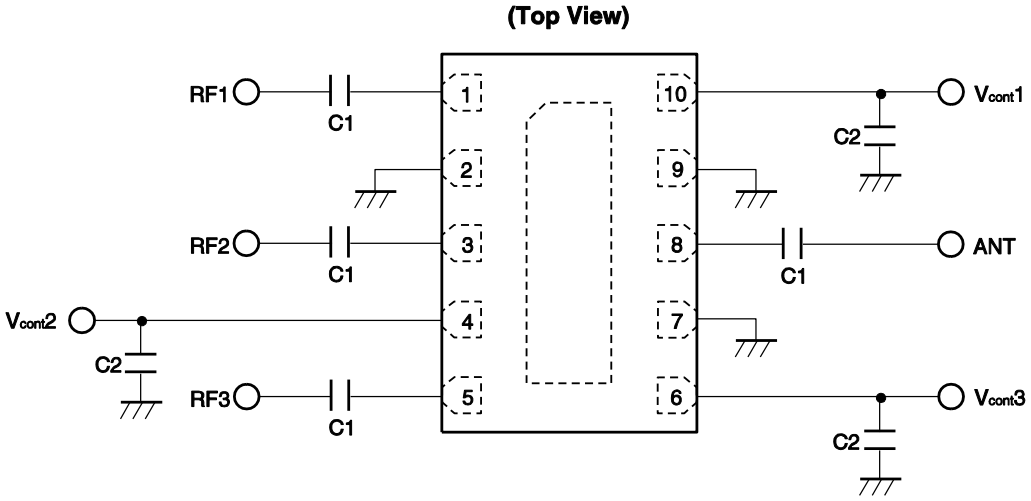
ELECTRICAL CHARACTERISTICS

(T_A = +25°C, $V_{cont\ (H)}$ = 2.8 V, $V_{cont\ (L)}$ = 0 V, Z_O = 50 Ω, DC blocking capacitors = 56 pF, unless otherwise specified)

Parameter	Symbol	Pass	Test Conditions	MIN.	TYP.	MAX.	Unit
Insertion Loss	L_{ins}	ANT to RF1, 2, 3	f = 0.5 to 1.0 GHz	–	0.45	0.65	dB
			f = 1.0 to 2.0 GHz	–	0.55	0.80	dB
			f = 2.0 to 2.5 GHz	–	0.60	0.85	dB
Isolation	ISL	ANT to RF1, 2, 3 (OFF)	f = 0.5 to 1.0 GHz	24	28	–	dB
			f = 1.0 to 2.0 GHz	18	22	–	dB
			f = 2.0 to 2.5 GHz	16	20	–	dB
Input Return Loss	RL_{in}	ANT to RF1, 2, 3	f = 0.5 to 2.5 GHz	15	20	–	dB
Output Return Loss	RL_{out}	ANT to RF1, 2, 3	f = 0.5 to 2.5 GHz	15	20	–	dB
0.1 dB Loss Compression Input Power **Note**	$P_{in\ (0.1\ dB)}$	ANT to RF1, 2, 3	f = 2.5 GHz	+29.0	+31.0	–	dBm
2nd Harmonics	2f0	ANT to RF1, 2, 3	f = 2.5 GHz, P_{in} = 23 dBm	65	75	–	dBc
3rd Harmonics	3f0	ANT to RF1, 2, 3	f = 2.5 GHz, P_{in} = 23 dBm	65	75	–	dBc
Switch Control Current	I_{cont}		RF None	–	0.2	50	μA
<R> Switch Control Speed	tsw			–	70	–	ns

Note $P_{in\ (0.1\ dB)}$ is measured the input power level when the insertion loss increases more 0.1 dB than that of linear range.

EVALUATION CIRCUIT

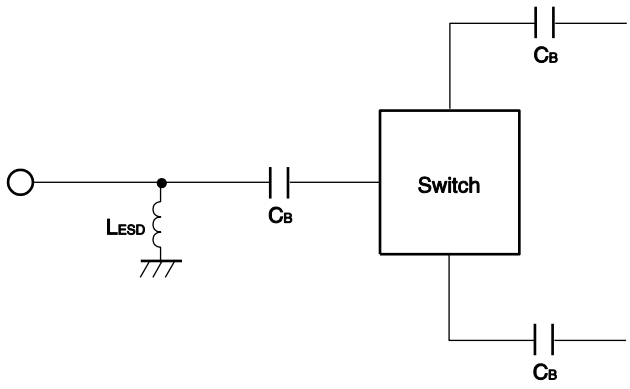


The application circuits and their parameters are for reference only and are not intended for use in actual design-ins.

USING THE EVALUATION BOARD

Symbol	Values
C1	56 pF
C2	1 000 pF

APPLICATION INFORMATION

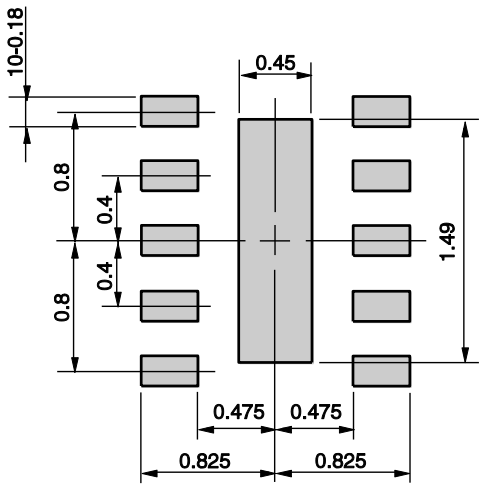


- C_B are DC blocking capacitors external to the device.
  A value of 56 pF is sufficient for operation from 500 MHz to 2.5 GHz bands.
  The value may be tailored to provide specific electrical responses.
- The RF ground connections should be kept as short as possible and connected to directly to a good RF ground for best performance.
- L_{ESD} provides a means to increase the ESD protection on a specific RF port, typically the port attached to the antenna.

MOUNTING PAD LAYOUT DIMENSIONS

10-PIN PLASTIC TSSON (UNIT: mm)

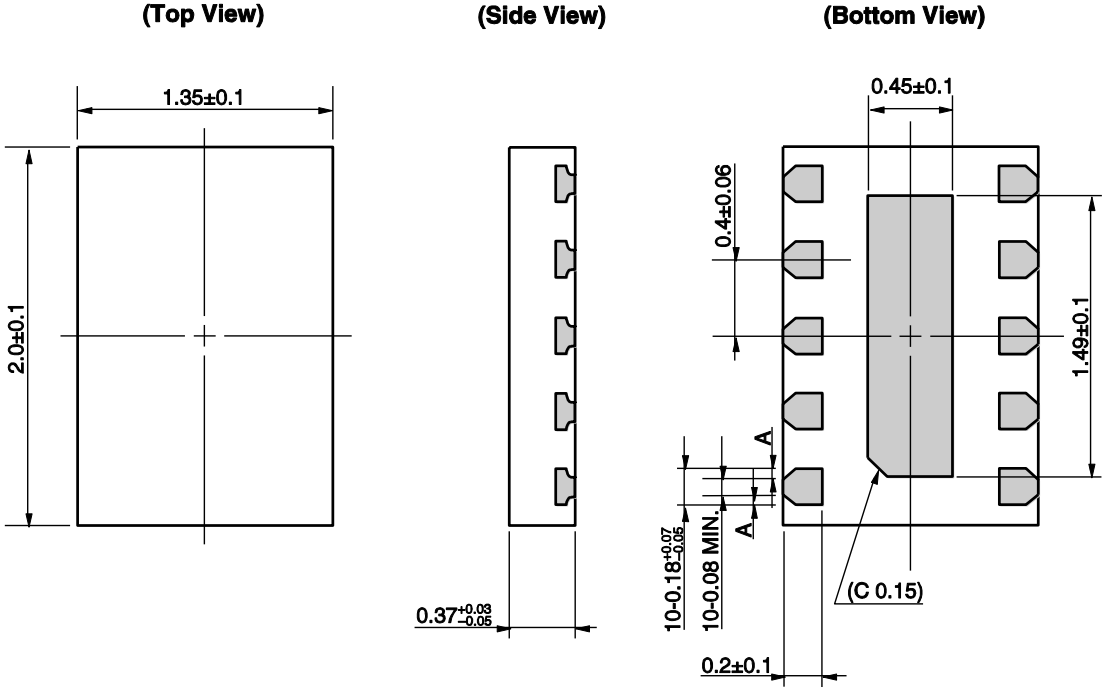
MOUNTING PAD



Remark The mounting pad layout in this document is for reference only.
When designing PCB, please consider workability of mounting, solder joint reliability, prevention of solder bridge and so on, in order to optimize the design.

PACKAGE DIMENSIONS

10-PIN PLASTIC TSSON (UNIT: mm)



Remark A>0

( ) : Reference value

RECOMMENDED SOLDERING CONDITIONS

This product should be soldered and mounted under the following recommended conditions. For soldering methods and conditions other than those recommended below, contact your nearby sales office.

Soldering Method	Soldering Conditions		Condition Symbol
Infrared Reflow	Peak temperature (package surface temperature)	: 260°C or below	IR260
	Time at peak temperature	: 10 seconds or less	
	Time at temperature of 220°C or higher	: 60 seconds or less	
	Preheating time at 120 to 180°C	: 120±30 seconds	
	Maximum number of reflow processes	: 3 times	
	Maximum chlorine content of rosin flux (% mass)	: 0.2%(Wt.) or below	
Partial Heating	Peak temperature (terminal temperature)	: 350°C or below	HS350
	Soldering time (per side of device)	: 3 seconds or less	
	Maximum chlorine content of rosin flux (% mass)	: 0.2%(Wt.) or below	

Caution Do not use different soldering methods together (except for partial heating).

Caution GaAs Products	This product uses gallium arsenide (GaAs). GaAs vapor and powder are hazardous to human health if inhaled or ingested, so please observe the following points. • Follow related laws and ordinances when disposing of the product. If there are no applicable laws and/or ordinances, dispose of the product as recommended below. 1. Commission a disposal company able to (with a license to) collect, transport and dispose of materials that contain arsenic and other such industrial waste materials. 2. Exclude the product from general industrial waste and household garbage, and ensure that the product is controlled (as industrial waste subject to special control) up until final disposal. • Do not burn, destroy, cut, crush, or chemically dissolve the product. • Do not lick the product or in any way allow it to enter the mouth.

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