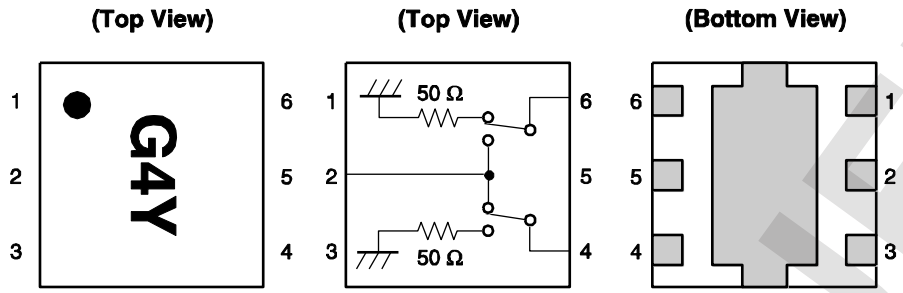
PIN CONNECTIONS AND INTERNAL BLOCK DIAGRAM



Pin No.	Pin Name
1	$V_{cont}1$
2	INPUT
3	$V_{cont}2$
4	OUTPUT2
5	GND
6	OUTPUT1

Remark Exposed pad : GND

TRUTH TABLE

$V_{cont}1$	$V_{cont}2$	INPUT–OUTPUT1	INPUT–OUTPUT2
High	Low	ON	OFF
Low	High	OFF	ON

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

Parameter	Symbol	Ratings	Unit
Switch Control Voltage	V_{cont}	–6.0 to +6.0 Note	V
Input Power (ON Port, peak)	P_{in}	+38	dBm
Input Power (ON Port, average)	P_{in}	+28	dBm
Input Power (OFF Port)	$P_{in\ (OFF)}$	+20	dBm
Power Dissipation (average)	P_D	150	mW
Operating Ambient Temperature	T_A	–45 to +85	°C
Storage Temperature	T_{stg}	–55 to +150	°C

Note $|V_{cont}1 - V_{cont}2| \leq 6.0$ V

RECOMMENDED OPERATING RANGE (T_A = +25°C, unless otherwise specified)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Operating Frequency	$f_{opt}1$	2.3	–	2.7	GHz
	$f_{opt}2$	3.3	–	3.8	GHz
	$f_{opt}3$	4.90	–	5.85	GHz
Switch Control Voltage (H)	$V_{cont\ (H)}$	+2.5	+3.0	+5.0	V
Switch Control Voltage (L)	$V_{cont\ (L)}$	–0.3	0	+0.3	V

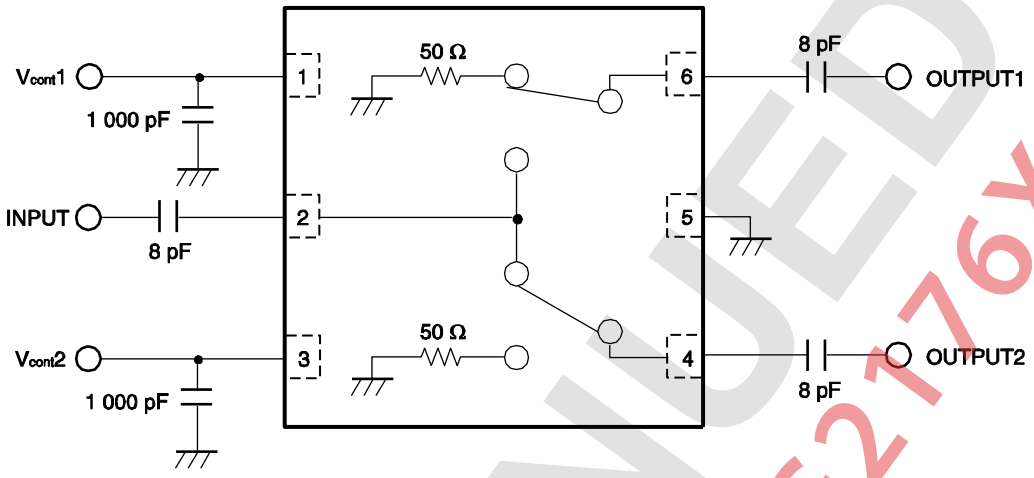
ELECTRICAL CHARACTERISTICS

(T_A = +25°C, $V_{cont\ (H)}$ = 3.0 V, $V_{cont\ (L)}$ = 0 V, DC blocking capacitors = 8 pF, unless otherwise specified)

Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
Insertion Loss 1	$L_{ins}1$	f = 2.3 to 2.7 GHz	–	0.45	0.70	dB
Insertion Loss 2	$L_{ins}2$	f = 3.3 to 3.8 GHz	–	0.55	0.80	dB
Insertion Loss 3	$L_{ins}3$	f = 4.9 to 5.85 GHz	–	0.70	0.95	dB
Isolation 1 (INPUT–OFF Port)	ISL1	f = 2.3 to 2.7 GHz	24	27	–	dB
Isolation 2 (INPUT–OFF Port)	ISL2	f = 3.3 to 3.8 GHz	21	24	–	dB
Isolation 3 (INPUT–OFF Port)	ISL3	f = 4.9 to 5.85 GHz	18	21	–	dB
Isolation 4 (OUTPUT1–OUTPUT2)	ISL4	f = 2.3 to 2.7 GHz	22	25	–	dB
Isolation 5 (OUTPUT1–OUTPUT2)	ISL5	f = 3.3 to 3.8 GHz	20	23	–	dB
Isolation 6 (OUTPUT1–OUTPUT2)	ISL6	f = 4.9 to 5.85 GHz	17	20	–	dB
Input Return Loss 1	$RL_{in}1$	f = 2.3 to 2.7 GHz	10	15	–	dB
Input Return Loss 2	$RL_{in}2$	f = 3.3 to 3.8 GHz	10	15	–	dB
Input Return Loss 3	$RL_{in}3$	f = 4.9 to 5.85 GHz	10	15	–	dB
Output Return Loss 1	$RL_{out}1$	f = 2.3 to 2.7 GHz	10	15	–	dB
Output Return Loss 2	$RL_{out}2$	f = 3.3 to 3.8 GHz	10	15	–	dB
Output Return Loss 3	$RL_{out}3$	f = 4.9 to 5.85 GHz	10	15	–	dB
Unused Port Return Loss 1	URL1	f = 2.3 to 2.7 GHz	10	15	–	dB
Unused Port Return Loss 2	URL2	f = 3.3 to 3.8 GHz	10	15	–	dB
Unused Port Return Loss 3	URL3	f = 4.9 to 5.85 GHz	10	15	–	dB
1 dB Loss Compression Input Power Note	$P_{in\ (1\ dB)}$	f = 2.3 to 2.7 GHz	+35.0	+37.0	–	dBm
		f = 3.3 to 3.8 GHz	+35.0	+37.0	–	dBm
		f = 4.9 to 5.85 GHz	+35.0	+37.0	–	dBm
Switch Control Current	I_{cont}	RF None	–	16	30	μA
Switch Control Speed	t_{SW}	50% CTL to 90/10% RF	–	100	250	ns

Note $P_{in\ (1\ dB)}$ is measured the input power level when the insertion loss increases more 1 dB than that of linear range.

EVALUATION CIRCUIT

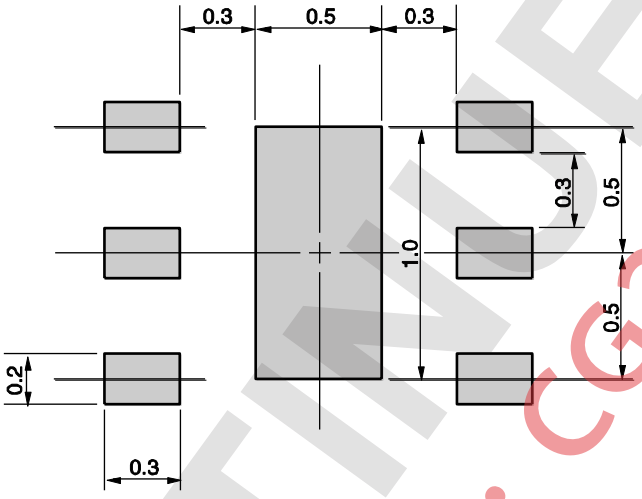


The application circuits and their parameters are for reference only and are not intended for use in actual design-ins.

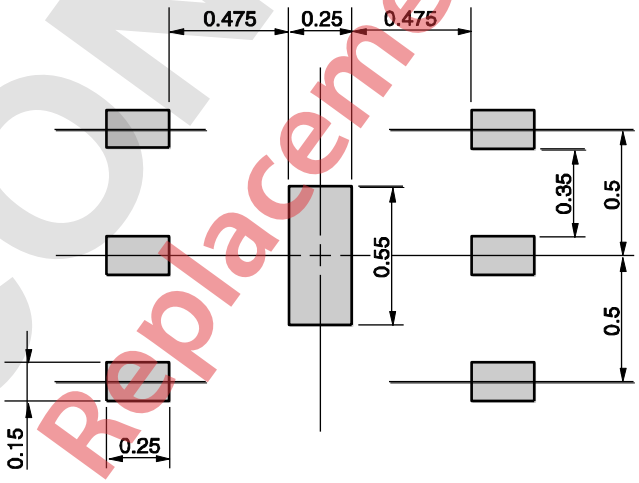
<R> **MOUNTING PAD AND SOLDER MASK LAYOUT DIMENSIONS**

6-PIN PLASTIC TSON (UNIT: mm)

MOUNTING PAD



SOLDER MASK

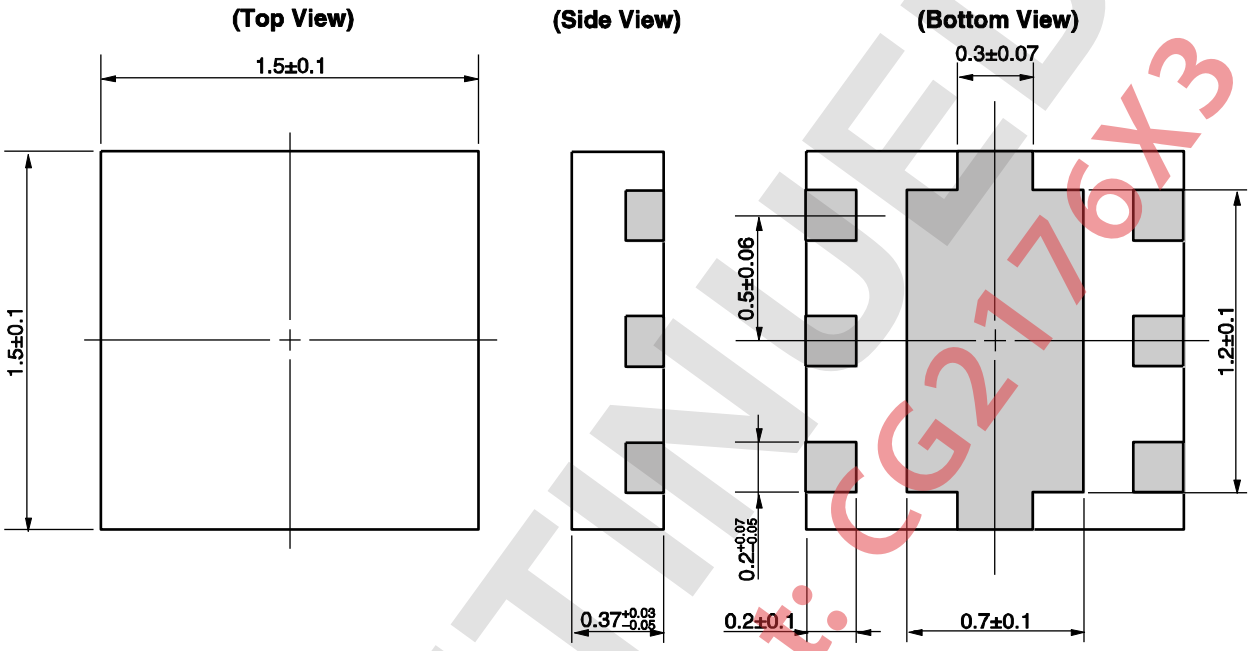


Solder thickness : 0.08 mm

Remark The mounting pad and solder mask layouts in this document are for reference only.

<R> **PACKAGE DIMENSIONS**

6-PIN PLASTIC TSON (UNIT: mm)



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) Time at peak temperature Time at temperature of 220°C or higher Preheating time at 120 to 180°C Maximum number of reflow processes Maximum chlorine content of rosin flux (% mass)	: 260°C or below : 10 seconds or less : 60 seconds or less : 120±30 seconds : 3 times : 0.2%(Wt.) or below	IR260
Wave Soldering	Peak temperature (molten solder temperature) Time at peak temperature Preheating temperature (package surface temperature) Maximum number of flow processes Maximum chlorine content of rosin flux (% mass)	: 260°C or below : 10 seconds or less : 120°C or below : 1 time : 0.2%(Wt.) or below	WS260
Partial Heating	Peak temperature (terminal temperature) Soldering time (per side of device) Maximum chlorine content of rosin flux (% mass)	: 350°C or below : 3 seconds or less : 0.2%(Wt.) or below	HS350

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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