

GENERAL DESCRIPTION

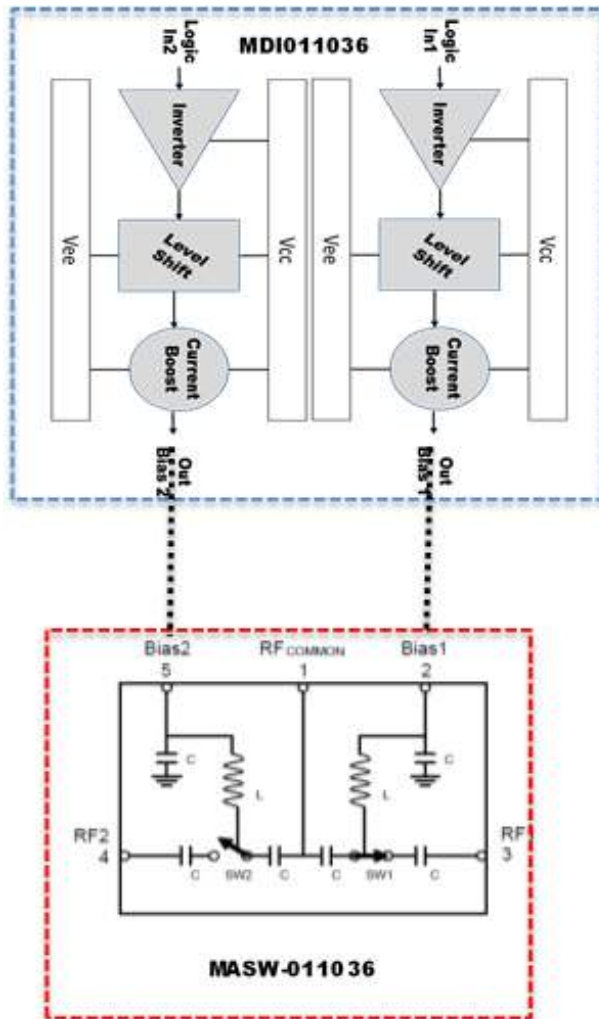
The MDI011036Q is a driver featuring high speed and wide negative voltage range suited for driving MASW-011036 SP2T terminated switch MMIC.

The driver is compatible with 3.3/5.0 V CMOS logic and supplies up to 25 mA current to forward bias the diodes and $-V$ from -5 to -30V to back bias the diodes.

FEATURES

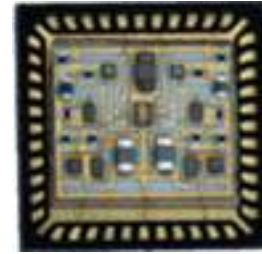
- Ultra high speed <12nS
- Available in packaged and unpackaged form
- Compatible with CMOS FPGA outputs

FUNCTION BLOCK DIAGRAM



MECHANICAL

The MDI011036Q is constructed on an alumina thin film substrate with TaN resistors and discrete wirebonded silicon bipolar transistors, packaged in a 7mm 44 pad QFN. It is designed for integration into an integrated microwave assembly which operates in harsh environments of high temperature and vibration.



PIN CONNECTIONS

Pins 11 and 23 (Vneg) are internally connected.
Pins 1 and 33 are not internally connected.

Pin 1 is + bias for channel 2 and Pin 33 is positive bias for channel 1

1	Vpos	23	Vneg
2	NC	24	NC
3	NC	25	NC
4	NC	26	NC
5	NC	27	NC
6	Input 2	28	Input 1
7	NC	29	NC
8	NC	30	NC
9	NC	31	NC
10	NC	32	NC
11	Vneg	33	Vpos
12	Ground	34	NC
13	NC	35	NC
14	NC	36	NC
15	NC	37	Output 1
16	NC	38	NC
17	NC	39	NC
18	NC	40	Output 2
19	NC	41	NC
20	NC	42	NC
21	NC	43	NC
22	Ground	44	NC

TRUTH TABLE

IN1	IN2	BIAS1	BIAS2
0	1	+mA	-V
1	0	-V	+mA
0	0	+mA	+mA

ELECTRICAL SPECIFICATIONS

Vpos +5V, Vneg -28V, TEMP 25C, PRR 1MHz

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
ABSOLUTE MAXIMUMS						
Vpos	Logic Supply Positive		0		+7	V
Vneg	Supply Voltage Negative		-40		0	V
To	Operating Temperature		-54		+125	Deg C
Ts	Storage Temperature		-65		+150	Deg C
INPUT						
VI_hi	Voltage Input High	TTL	4.2	4.5	5.5	V
VI_low	Voltage Input Low	TTL	0	.5	1.0	V
OUTPUT						
VO_hi	Voltage Out High	open load	4.2	4.5	4.8	V
VO_low	Voltage Out Low	open load	-27.8	-27.5	-27.2	V
IO_hi	Current Out High	steady state into 1V diode load		25		mA
IO_low	Current Out Low	steady state into 1V diode load		-0		mA
lopk	Current Peak Output	sink		-100		mA
SUPPLY						
IQC_pos	Quiescent Current Positive	0.5MHz 50% duty cycle		11		mA
IQC_neg	Quiescent Current Negative	0.5MHz 50% duty cycle		14		mA
DYNAMIC						
Trise	Time Rise			5	10	nS
Tfall	Time Fall			5	10	nS
Td_rise	Delay Rise			3	100	nS
Td_fall	Delay Fall			3	100	nS
TSW_rise	Switching Speed Rise	10pF load		9	110	nS
TSW_fall	Switching Speed Fall	10pF load		9	110	nS
PRR	Pulse Repetition Rate	Max, 10pF load		10		MHz

MECHANICAL SPECIFICATIONS

"DRAWING NOT TO SCALE. DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE NOTED."

** Recommended paddle be grounded or alternatively left floating. Recommended Bypassing +5V and -V supply with .1 uf (.01 uf min) to ground.

Package Code Q

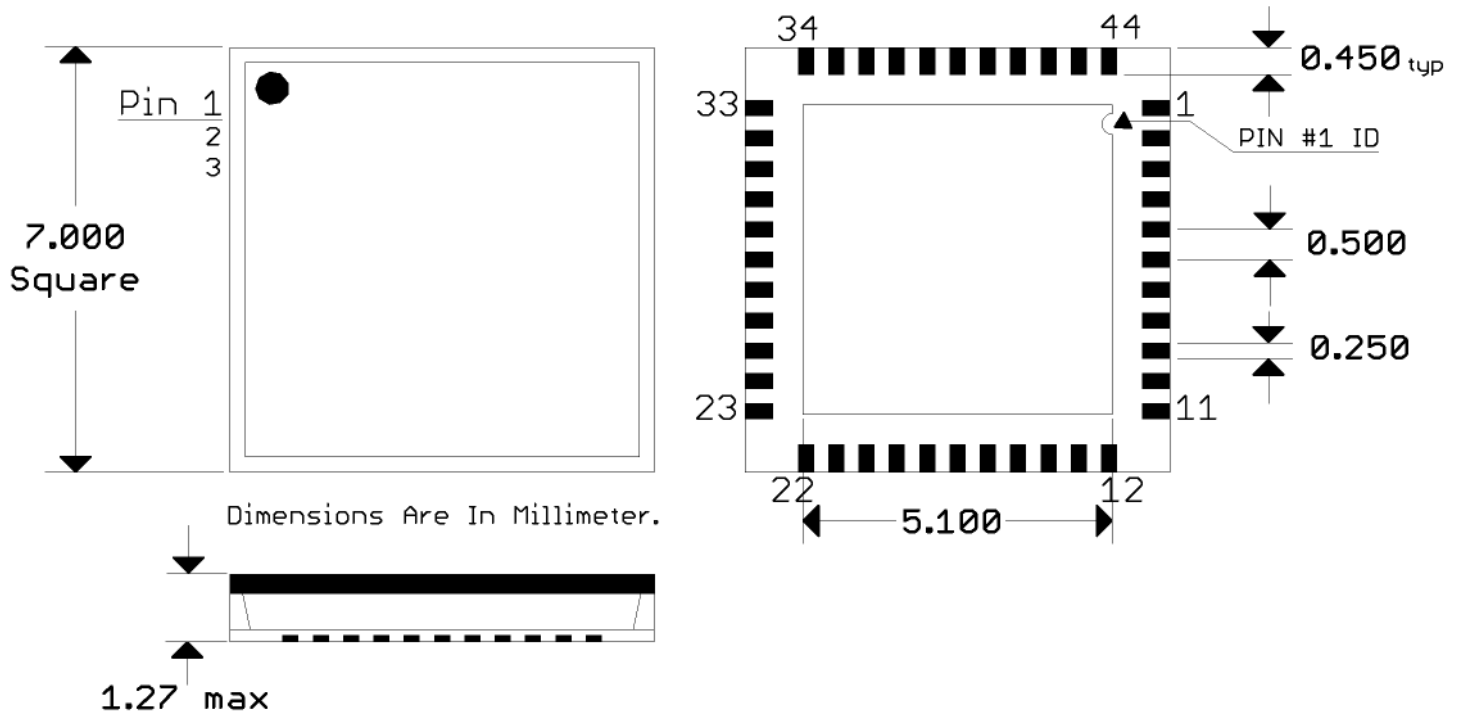
Type: Housing; Lead Finish: Gold

Length 7.000 mm MAX; Width 7.000 mm MAX; Height 1.27 mm MAX; Weight .1 grams MAX

MARKING SPECIFICATIONS

Logo: Impellimax

Part Number: MDI011036Q



SWITCH STATE

Switch State
RFC-RF1 ISO RFC-RF2 Loss
RFC-RF1 Loss RFC-RF2 ISO
RFC-RF1 ISO RFC-RF2 ISO
