

INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

WIDE BANDWIDTH

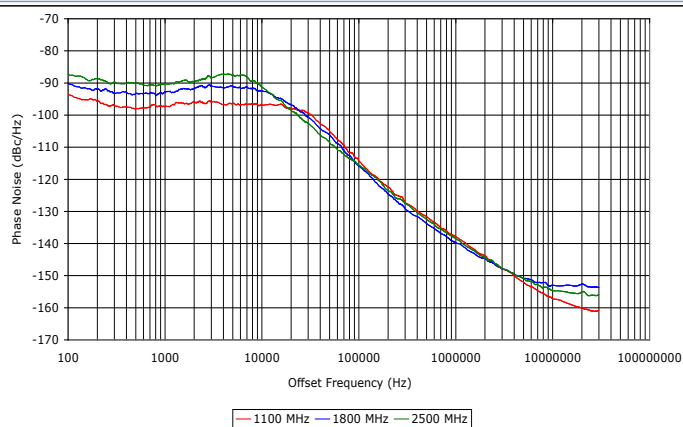
1100 - 2500 MHz

FEATURES:

- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patent Pending REL-PRO® Technology
- ▶ Small Size, Surface Mount
- ▶ Buffered Output



Phase Noise



SPECIFICATIONS (Rev. A 11/19/07)

Frequency	1100 - 2500 MHz		
Step Size	1 MHz		
Reference Input Frequency	10 MHz *		
Reference Input Voltage	1 V p-p to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	50
	VCO	+5	35
	Converter	+5	60
Output Power	+5 dBm (Min.)		
Spurious Suppression	70 dB (Typ.)		
Harmonic Suppression	20 dB (Typ.)		
Settling Time	15 mSec (Typ.) **		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-92 dbc/Hz	
	@ 10 kHz	-92 dbc/Hz	
	@ 100 kHz	-115 dbc/Hz	
Operating Temperature Range	-40 to +85 °C		
Programming	See Application Note: AN7100		

* Reference input frequency is programmable in multiples of the step size, 10 MHz is the default setting. 150 MHz (Max.)

** From the rising edge of LE to stable lock detect

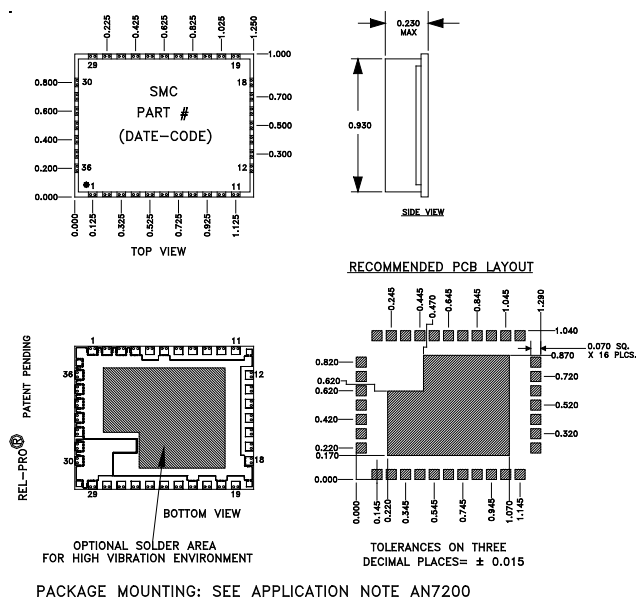
* Reference input frequency is programmable in multiples of the step size, 10 MHz is the default setting. 150 MHz (Max.)

** From the rising edge of LE to stable lock detect

Absolute Maximum Ratings

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (VCO)	+5.5 V
Bias Voltage (Converter)	+8 V
DC Voltage Applied to RF Out	±25 V

Package # 197LF



Pin-Out		
Pin 5 - RF out	Pin 19 - Latch Enable In	Pin 28 - Vcc (Converter)
Pin 7 - Lock Detect Out *	Pin 21 - Ref. In	Pin 8,12,14,15,17 - NC
Pin 9 - Data In	Pin 23 - Vcc (Digital)	All Others - Ground
Pin 10 - Error Flag	Pin 24 - Vtune (Output)	
Pin 11 - Clock In	Pin 25 - Vcc (VCO)	NC - No Connection
Pin 13 - VCO (On/Off)****	Pin 26 - Vout (Converter) ***	
Pin 16 - Reset **	Pin 27 - Vcc (Tune) ***	

* High when locked (source/sink 500 uA)

** A low on this input will reset the internal controller. Leave unconnected for normal operation.

*** Connect externally. Bypassed with a 10uF 35V tantalum capacitor.

**** NC if unused.

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,380,348; 5,416,446; 5,630,754; 5,805,431; 6,325,623; 6,056,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113
 Pending: 6,648,307; 6,650,137; 6,658,179; 6,657,937; 6,653,675; 6,656,481; 6,656,473; 6,658,083; 6,660,822; 6,660,579; 6,673,803; 6,673,804
 6,673,805; 6,673,806; 6,673,807; 6,673,808; 6,673,809; 6,673,810; 6,673,811; 6,673,812

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07604 • Tel: (973) 881-8800 • Fax: (973) 881-8361
 E-Mail: sales@synergymicrowave.com • World Wide Web: http://www.synergymicrowave.com



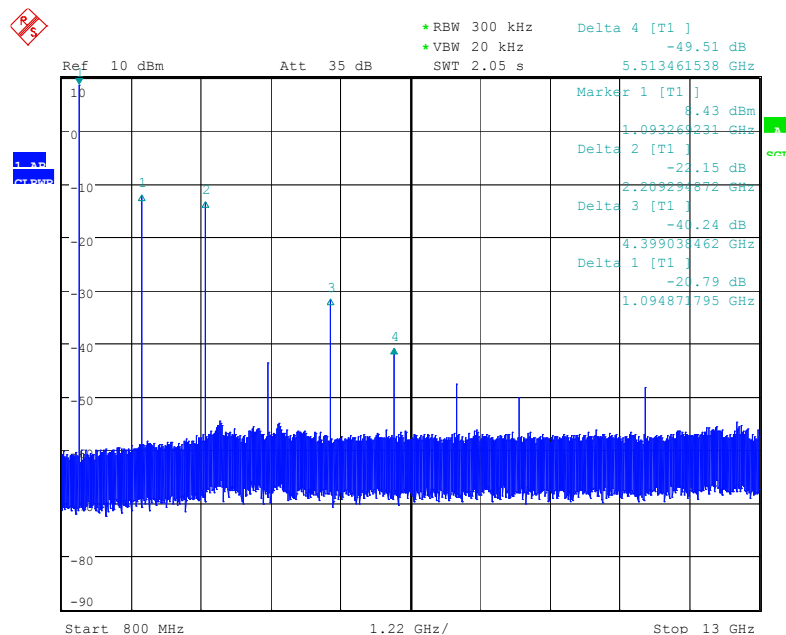
INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

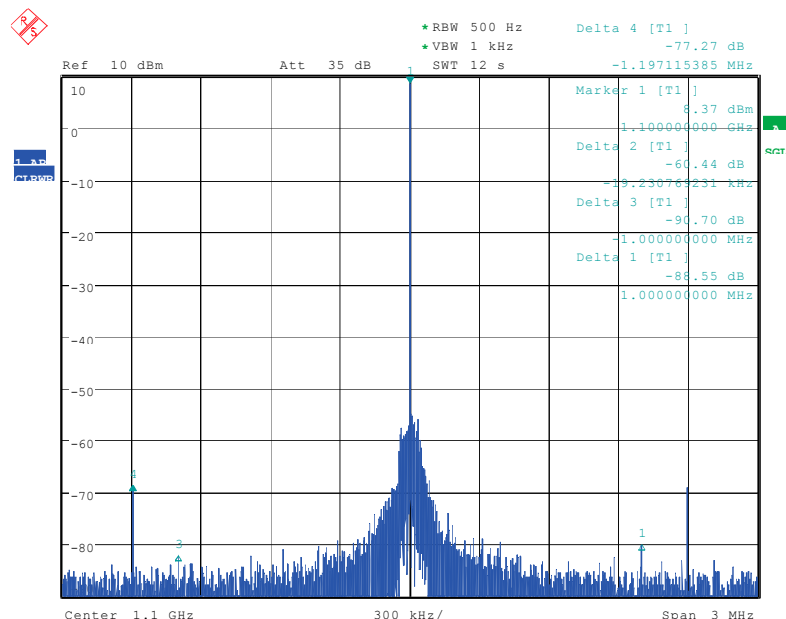
WIDE BANDWIDTH

1100 - 2500 MHz

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,330,348; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113
 Pending: 66/48,307; 66/50,137; 66/50,759; 66/50,793; 66/53,675; 66/56,348; 66/56,417; 66/58,083; 66/60,822; 66/60,579; 66/73,603; 66/73,768; 66/62,485 & 66/71,021; 66/73,256 & 66/73,601; 66/73,767

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07504 • Tel: (973) 881-8800 • Fax: (973) 881-8361
 E-Mail: sales@synergymw.com • World Wide Web: <http://www.synergymw.com>



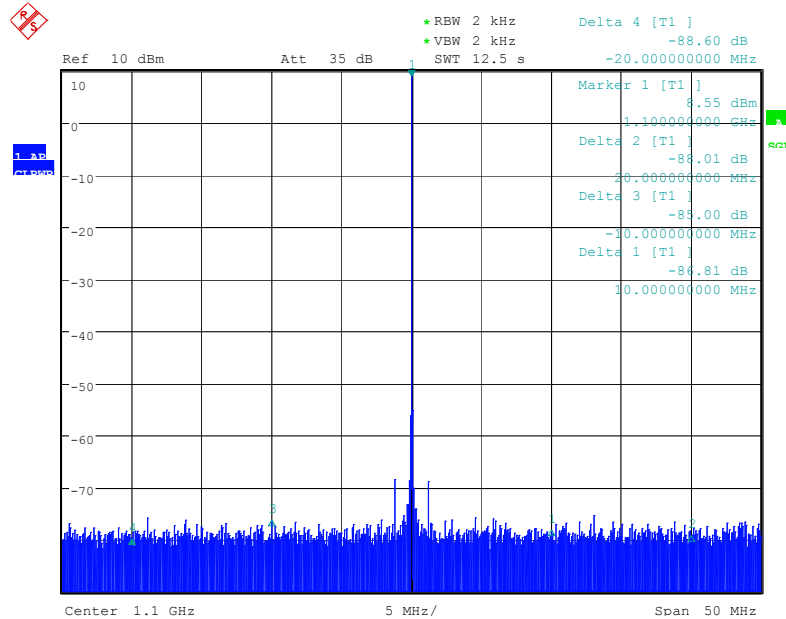
INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

WIDE BANDWIDTH

1100 - 2500 MHz

REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,183,810; 5,122,621; 5,330,348; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,856,573; 7,088,182; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113
 Pending: 66/48,307; 60/501,371 & 66/581,796; 60/507,957 & 66/538,675; 60/563,481; 60/564,173; 60/580,083; 60/601,822; 60/605,791; EV31268034;
 14,259,768; 60/623,485 & 66/7102112; 10/607,325/60/736901; 60/732787

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07504 • Tel: (973) 881-8600 • Fax: (973) 881-8361
 E-Mail: sales@synergymw.com • World Wide Web: <http://www.synergymw.com>



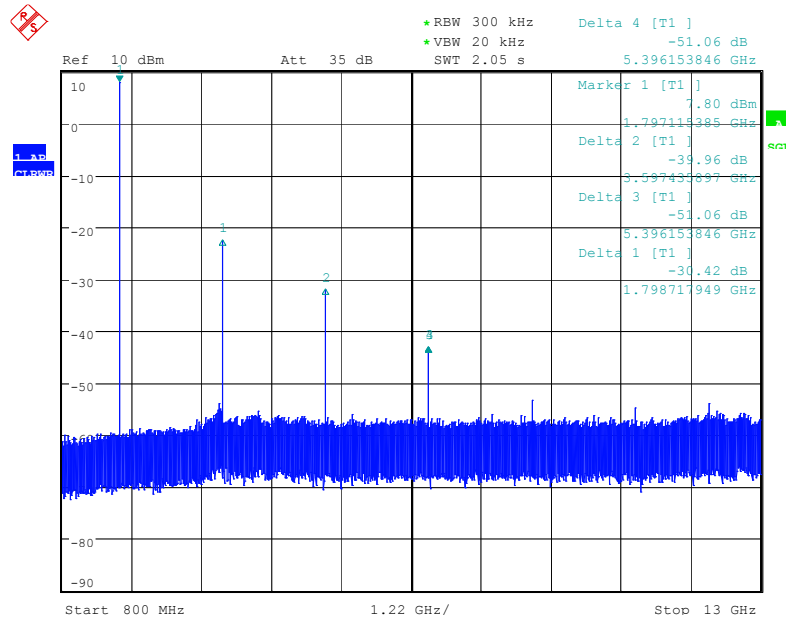
INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

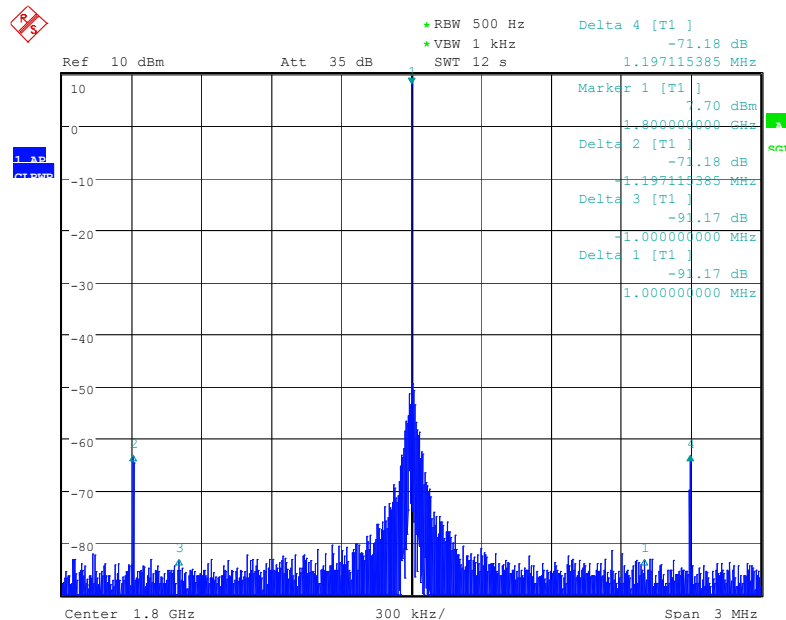
WIDE BANDWIDTH

1100 - 2500 MHz

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,330,348; 5,416,446; 5,630,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,263,642; 7,292,113
 Pending: 66/48,307; 60/50,1371 & 60/50,1796; 60/50,7937 & 60/53,6675; 60/56,3481; 60/56,4173; 60/58,0083; 60/60,1822; 60/60,5791; 60/73,268034;
 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034; 60/73,268034

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07604 • Tel: (873) 881-8800 • Fax: (873) 881-8861
 E-Mail: sales@synergymw.com • World Wide Web: <http://www.synergymw.com>



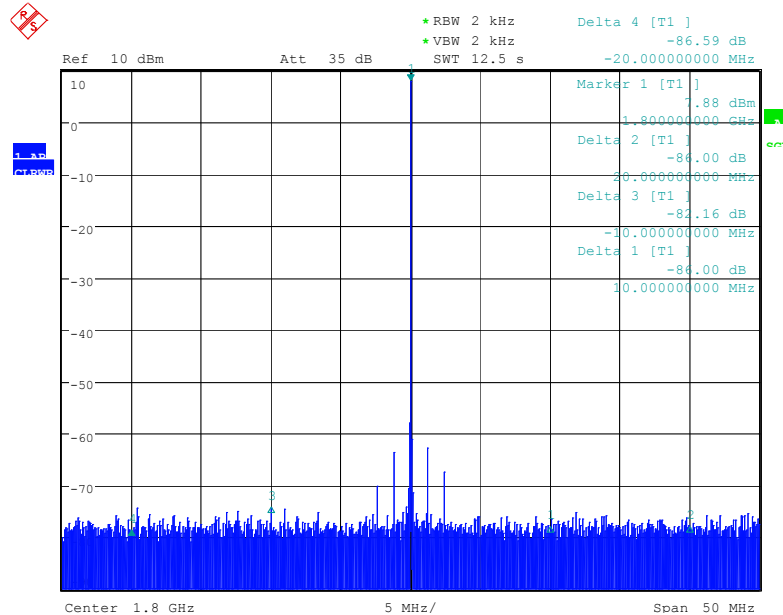
INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

WIDE BANDWIDTH

1100 - 2500 MHz

REFERENCE SIDEBAND SUPPRESSION



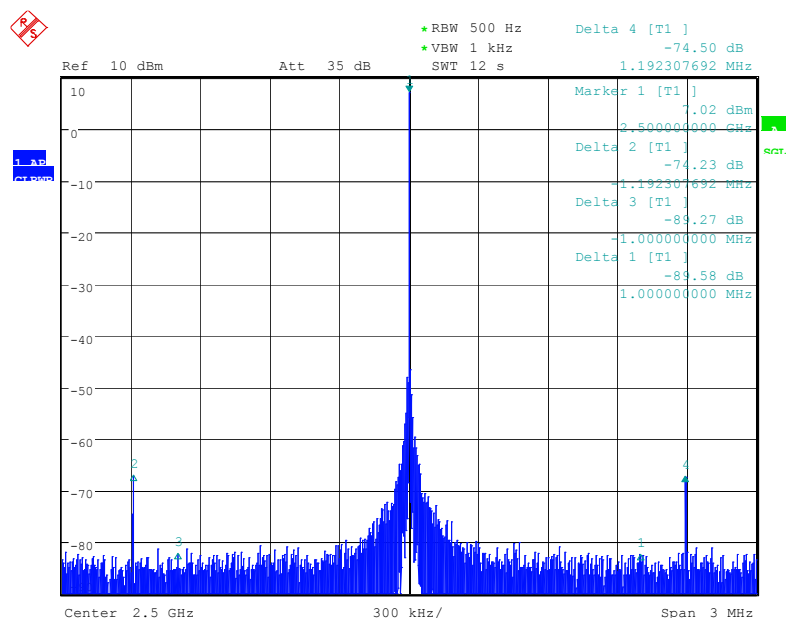
PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,380,348; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,056,573; 7,088,182; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113
 Pending: 66/49,307; 60/501,371 & 66/581,796; 60/507,957 & 66/538,675; 60/563,481; 60/564,173; 60/580,083; 60/601,822; 60/605,791; EV31268034;
 14,259,768; 60/623,485 & 66/710,212; 10/607,325/60/736901; 60/732,787

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07504 • Tel: (973) 881-8600 • Fax: (973) 881-8361
 E-Mail: sales@synergymw.com • World Wide Web: <http://www.synergymw.com>



1100 - 2500 MHz



PERFORMANCE PLOTS

Copyright © 2006 Synergy Microwave Corporation
201 McLean Boulevard • Paterson, New Jersey 07504 • Tel: (973) 881-8800 • Fax: (973) 881-8361
E-Mail: sales@synergmwave.com • World Wide Web: <http://www.synergmwave.com>



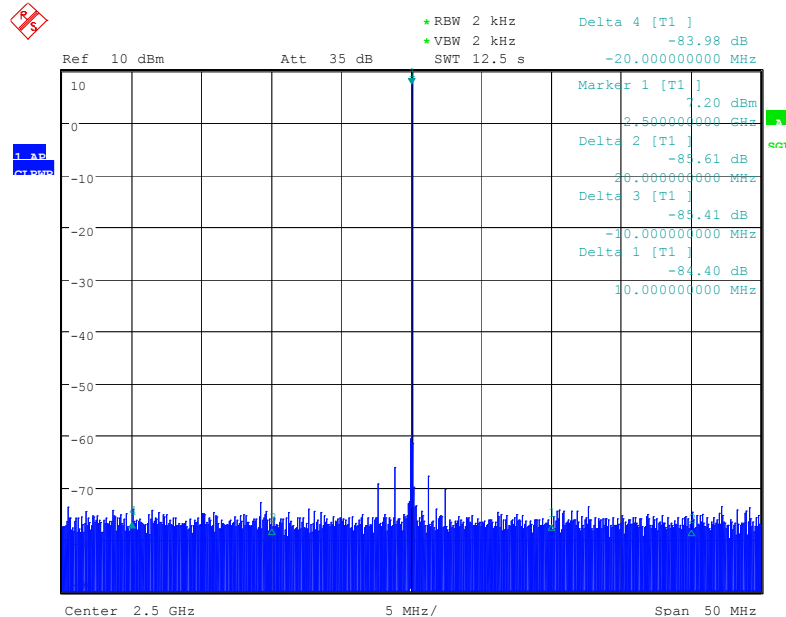
INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW110250-100

WIDE BANDWIDTH

1100 - 2500 MHz

REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,380,348; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,856,573; 7,088,182; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113
 Pending: 66/48,307; 60/501,371 & 66/581,796; 60/507,957 & 66/538,675; 60/563,481; 60/564,173; 60/580,083; 60/601,822; 60/605,791; EV31268034;
 14,259,768; 60/623,485 & 66/710212; 10/607,325/60/736901; 60/732787

Copyright © 2006 Synergy Microwave Corporation
 201 McLean Boulevard • Paterson, New Jersey 07504 • Tel: (973) 881-8600 • Fax: (973) 881-8361
 E-Mail: sales@synergymw.com • World Wide Web: <http://www.synergymw.com>

