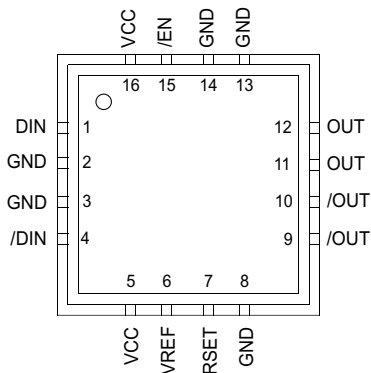


PACKAGE/ORDERING INFORMATION

Ordering Information



Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY88912LMI	MLF-16	Industrial	912L	Sn-Pb
SY88912LMITR ⁽¹⁾	MLF-16	Industrial	912L	Sn-Pb
SY88912LMG	MLF-16	Industrial	912L with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY88912LMGTR ⁽¹⁾	MLF-16	Industrial	912L with Pb-Free bar-line indicator	Pb-Free NiPdAu

Note:

1. Tape and Reel.

16-Pin MLF™ (MLF-16)

PIN NAMES

Pin	Function
D _{IN} , /D _{IN}	NRZ differential data inputs.
/EN	PECL compatible active low input.
GND	Most negative power supply input.
OUT, /OUT	Open collector outputs from the modulation driver.
R _{SET}	An external resistor between V _{REF} and R _{SET} defines the modulation current.
V _{CC}	Most positive power supply input.
V _{REF}	Voltage reference for use with R _{SET} .

TRUTH TABLE⁽¹⁾

D	/D	/EN	OUT ⁽²⁾	/OUT
L	H	L	H	L
H	L	L	L	H
X	X	H	H	L

Notes:

1. L = LOW, H = HIGH, X = don't care.
2. I_{OUT} ≤ I_{MOD_OFF} when /EN is HIGH.

DC ELECTRICAL CHARACTERISTICS

$V_{CC} = 3.15$ to $3.45V$; $GND = 0V$; $T_A = -40^{\circ}C$ to $+85^{\circ}C$

Symbol	Parameter	Min.	Typ. ⁽²⁾	Max.	Unit	Condition
I_{CC}	Power Supply Current ⁽¹⁾	—	65	80	mA	$I_{MOD} = 60mA$
I_{MOD}	Modulation Current Range	10	—	60	mA	
I_{MOD_OFF}	Modulation Off Current ⁽²⁾	—	—	200	μA	$/EN = V_{IHEN}$
V_{IDDIN}	Input Differential Voltage, $D_{IN}, /D_{IN}$	200	—	1600	mV _{PP}	⁽³⁾
V_{IHDIN}	Input HIGH Voltage, $D_{IN}, /D_{IN}$	$V_{CC} - 1.7$	—	$V_{CC} - 0.1$	V	
V_{ILDIN}	Input LOW Voltage, $D_{IN}, /D_{IN}$	$V_{CC} - 1.9$	—	$V_{CC} - 0.3$	V	
V_{IHEN}	Input HIGH Voltage, $/EN$	$V_{CC} - 1165$	—	$V_{CC} - 880$	mV	
V_{ILEN}	Input LOW Voltage, $/EN$	$V_{CC} - 1810$	—	$V_{CC} - 1475$	mV	
V_{OUT}	Output Voltage, $OUT, /OUT$	$V_{CC} - 1.5$	—	V_{CC}	V	⁽⁴⁾
V_{REF}	Reference Voltage ^{1.5}	1.7	1.9	V		

Notes:

1. Excluding I_{MOD} . $I_{MOD} \leq 60mA$
2. Typical values are under $V_{CC} = 3.3V$ and $T_A = 25^{\circ}C$.
3. V_{IDDIN} is the voltage required to guarantee a stable logic level. For a logic "1", D_{IN} must be V_{IDDIN} above $/D_{IN}$. For stable logic "0", D_{IN} must be V_{IDDIN} below $/D_{IN}$.
4. OUT and $/OUT$ are current outputs. This specification defines the voltage range that the user must guarantee these pins remain within proper operation.

AC ELECTRICAL CHARACTERISTICS⁽¹⁾

$V_{CC} = 3.15$ to $3.45V$; $GND = 0V$; $T_A = -40^{\circ}C$ to $+85^{\circ}C$

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
D_J	Jitter Generation ^{(2),(3)}	—	—	20	ps	peak-to-peak
t_r, t_f	Rise/Fall Times ⁽²⁾ (20% to 80%)	—	65	—	ps	

Notes:

1. AC characteristics are guaranteed by design and characterization.
2. $I_{MOD} = 40mA$, 25Ω resistors each tied from OUT and $/OUT$ to V_{CC} .
3. $I_{MOD} = 40mA$, 2.5Gbps, 0-1 pattern, BW = 12KHz to 20MHz.

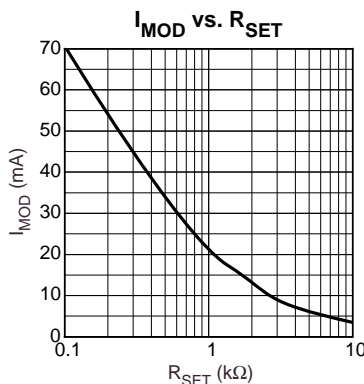
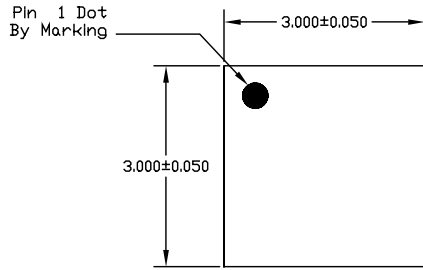
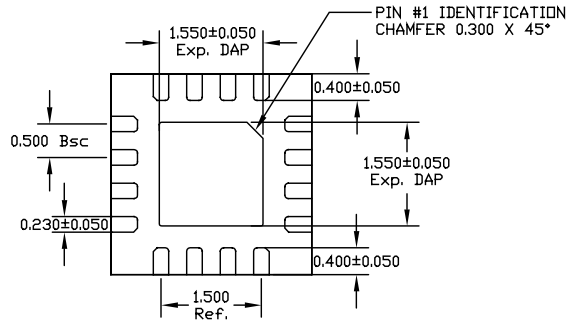


Figure 1. I_{MOD} vs. R_{SET}

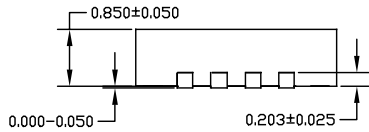
16 LEAD EPAD-Micro LEADFRAME™ (MLF-16)



TOP VIEW



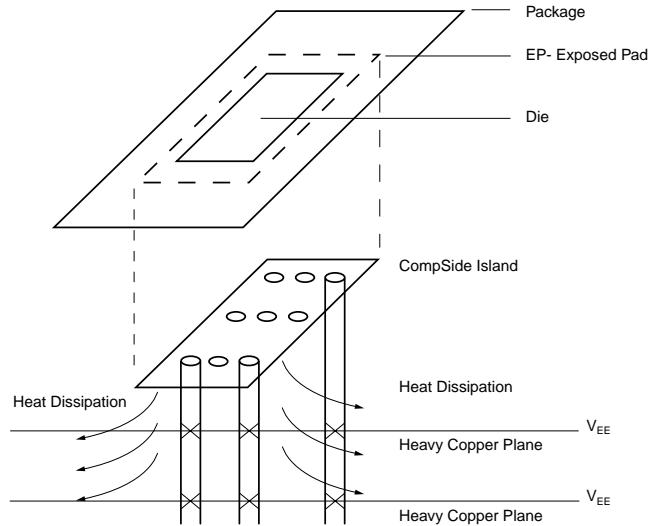
BOTTOM VIEW



SIDE VIEW

- NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. MAX. PACKAGE WARPAGE IS 0.05 mm.
 3. MAXIMUM ALLOWABLE BURRS IS 0.076 mm IN ALL DIRECTIONS.
 4. PIN #1 ID ON TOP WILL BE LASER/INK MARKED.

Rev. 01



PCB Thermal Consideration for 16-Pin MLF™ Package

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