

Table 1. Absolute Maximum Rating ^[1] T_c = +25°C, PIN diode

Symbol	Parameter	Units	Absolute Max. for PIN Diode	Absolute Max. for Schottky Diode
I _F	Forward Current (1μs Pulse)	Amp	1	1
P _{IV}	Peak Inverse Voltage	V	100	15
T _J	Junction Temperature	°C	150	
T _{STG}	Storage Temperature	°C	-65 to 150	
θ _{JC}	Thermal Resistance ^[2]	°C/W	150	

Notes:

1. Operation in excess of anyone of these conditions may result in permanent damage to the device.
2. T_C = 25°C, T_C where is defined to be the temperature at the package pins where contacts is made to the circuit board.

Table 2. Electrical Specifications, T_c = +25°C, PIN diode

Symbol	Parameter and Test Condition	Units	Min.	Typ	Max.
V _{BR}	Breakdown Voltage @ I _R ≤ 10μA	V	100	128	–
V _F	Forward Voltage @ I _F = 30mA	V	–	0.90	–
R _S	Typical Series Resistance @ Freq = 100MHz & I _F = 1mA	Ohm	–	4.00	–
R _S	Typical Series Resistance @ Freq = 100MHz & I _F = 5mA	Ohm	–	1.90	2.5
C _T	Typical Total Capacitance @ Freq = 1MHz & V _R = 5V	pF	–	0.28	0.375
τ	Carrier Lifetime @ I _F = 10mA & I _R = 6mA	ns	–	200	–

Table 3. Electrical Specifications, T_c = +25°C, Schottky diode

Symbol	Parameter and Test Condition	Units	Min.	Typ	Max.
V _{BR}	Breakdown Voltage @ I _R ≤ 100μA	V	15	22	–
I _R	Reverse Leakage Current @ V _{BR} = 1V	nA	–	40	100
V _F	Forward Voltage @ I _F = 1mA	V	–	0.32	0.34
V _F	Forward Voltage @ I _F = 10mA	V	–	0.45	0.50
C _T	Typical Total Capacitance @ Freq = 1MHz & V _R = 0V	pF	–	0.7	1.0
RD	Typical Dynamic Resistance, I _F = 5mA	Ohm	–	12	–

ASML-5829 Typical Performance, $T_c = +25^\circ\text{C}$

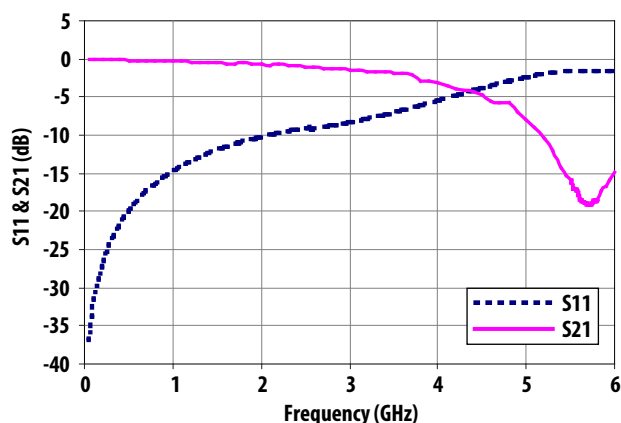


Figure 1. S11 & S21 vs Frequency at Input Power = 0dBm

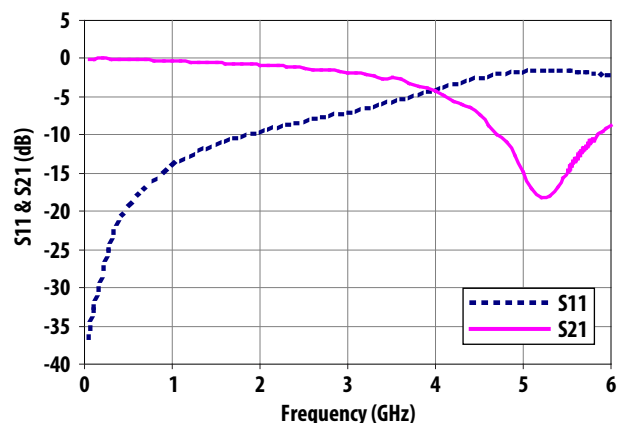


Figure 2. S11 & S21 vs Frequency at Input Power = -30dBm

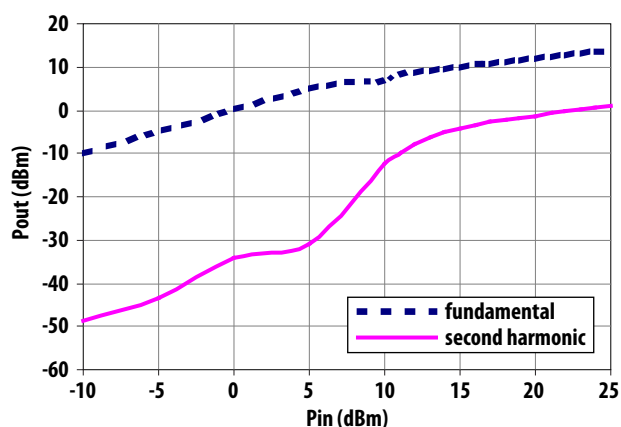


Figure 3. Pout fundamental & Pout second harmonic vs Pin at freq = 450MHz

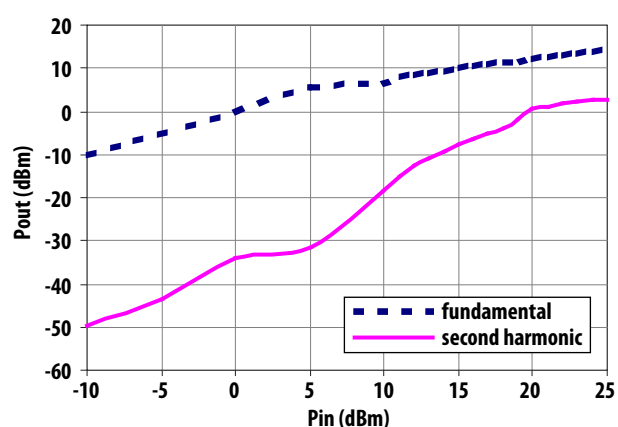


Figure 4. Pout fundamental & Pout second harmonic vs Pin at freq = 900MHz

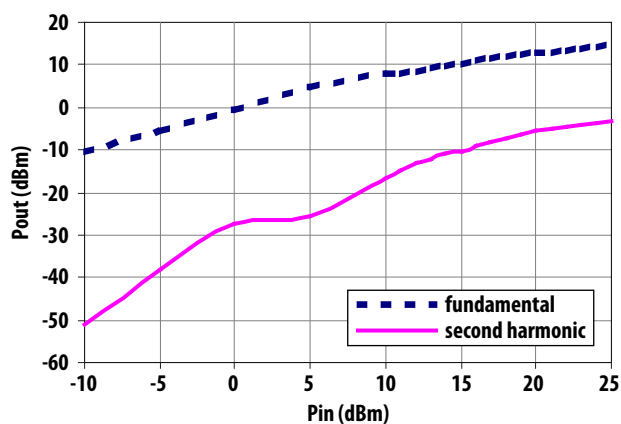


Figure 5. Pout fundamental & Pout second harmonic vs Pin at freq = 1.8GHz

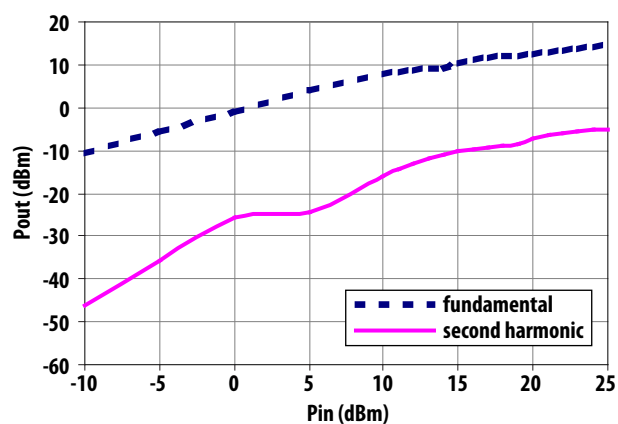


Figure 6. Pout fundamental & Pout second harmonic vs Pin at freq = 2.0GHz

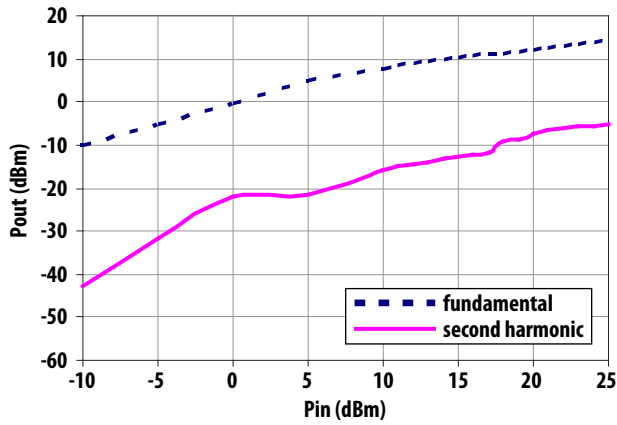


Figure 7. P_{out} fundamental & P_{out} second harmonic vs P_{in} at freq = 2.5GHz

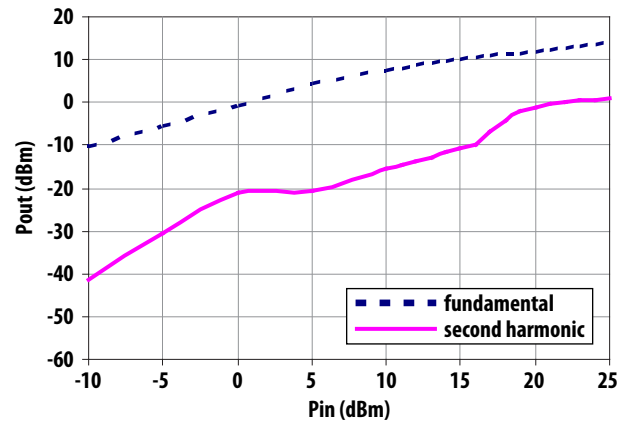
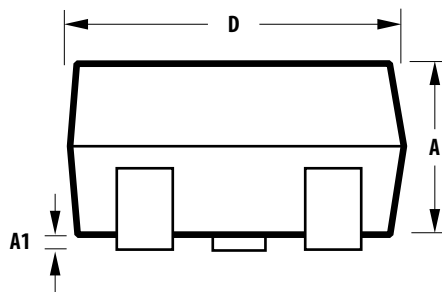
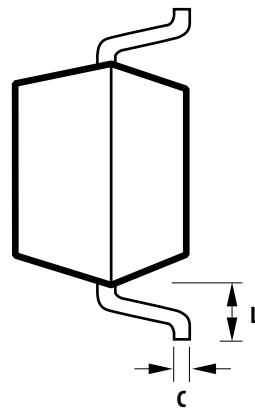
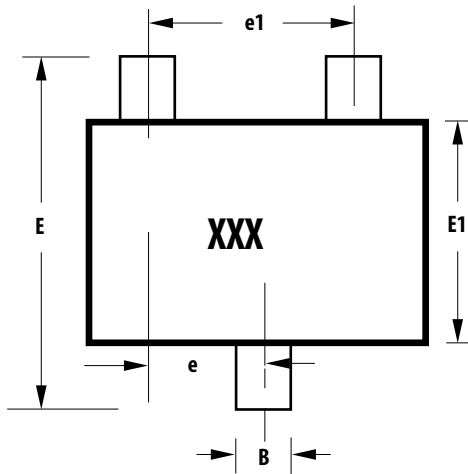


Figure 8. P_{out} fundamental & P_{out} second harmonic vs P_{in} at freq = 2.7GHz

SOT-323 Package Outline



Notes:
XXX-package marking
Drawings are not to scale

SYMBOL	DIMENSIONS (mm)	
	MIN.	MAX.
A	0.80	1.00
A1	0.00	0.10
B	0.15	0.40
C	0.10	0.20
D	1.80	2.25
E1	1.10	1.40
e	0.65 typical	
e1	1.30 typical	
E	1.80	2.40
L	0.425 typical	

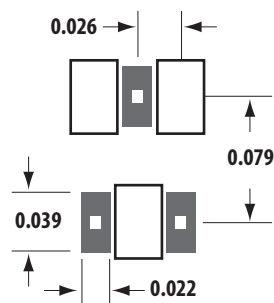
Part Number Ordering Information

Part Number	No. of Devices	Container
ASML-5829-BLK	100	Bulk, per Antistatic bag
ASML-5829-TR1	3000	Tape & Reel, per 7" Reel
ASML-5829-TR2	10000	Tape & Reel, per 13" Reel

Tape and Reeling conforms to Electronic Industries RS-481, "Taping of Surface Mounted Components for Automated Placement".

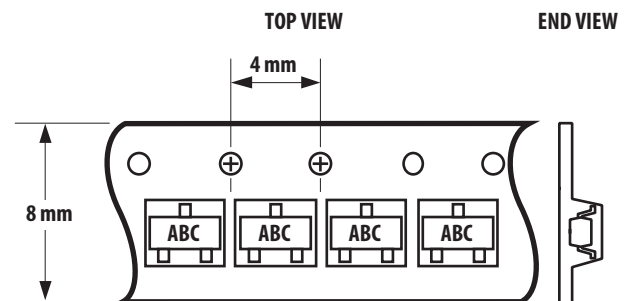
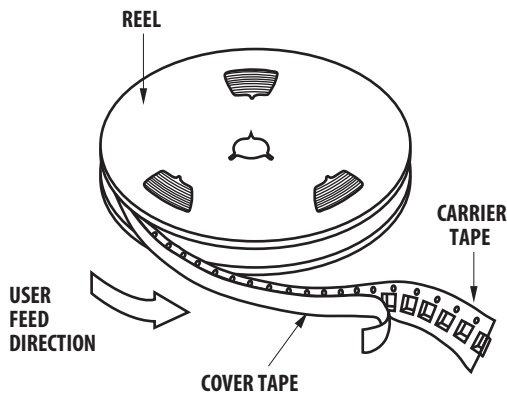
For lead-free option, the part number will have the character "G" at the end, eg. -TR2G for a 10K pc lead-free reel.

Recommended PCB Pad Layout for AVAGO's SOT-323 Products



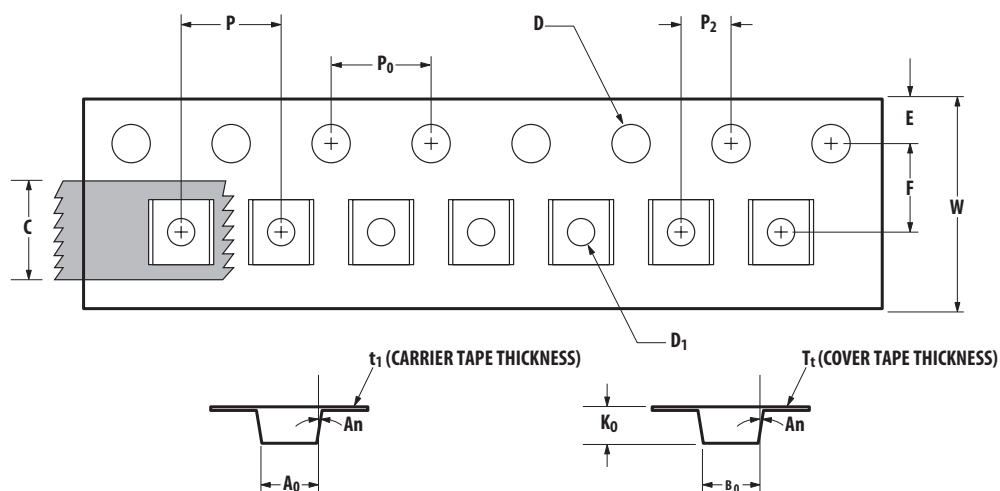
Dimensions in inches

Device Orientation



Note: "AB" represents package marking code.
"C" represents date code.

Tape Dimensions and Product Orientation



	DESCRIPTION	SYMBOL	SIZE (mm)	SIZE (INCHES)
CAVITY	LENGTH	A_0	2.40 ± 0.10	0.094 ± 0.004
	WIDTH	B_0	2.40 ± 0.10	0.094 ± 0.004
	DEPTH	K_0	1.20 ± 0.10	0.047 ± 0.004
	PITCH	P	4.00 ± 0.10	0.157 ± 0.004
	BOTTOM HOLE DIAMETER	D_1	1.00 ± 0.25	0.039 ± 0.010
PERFORATION	DIAMETER	D	1.55 ± 0.05	0.061 ± 0.002
	PITCH	P_0	4.00 ± 0.10	0.157 ± 0.004
	POSITION	E	1.75 ± 0.10	0.069 ± 0.004
CARRIER TAPE	WIDTH	W	8.00 ± 0.30	0.315 ± 0.012
	THICKNESS	t_1	0.254 ± 0.02	0.0100 ± 0.0008
COVER TAPE	WIDTH	C	5.4 ± 0.10	0.205 ± 0.004
	TAPE THICKNESS	T_t	0.062 ± 0.001	0.0025 ± 0.00004
DISTANCE	CAVITY TO PERFORATION (WIDTH DIRECTION)	F	3.50 ± 0.05	0.138 ± 0.002
	CAVITY TO PERFORATION (LENGTH DIRECTION)	P_2	2.00 ± 0.05	0.079 ± 0.002
ANGLE	FOR SOT-323 (SC70-3 LEAD) FOR SOT-363 (SC70-6 LEAD)	A_n	8°C MAX 10°C MAX	

For product information and a complete list of distributors, please go to our web site: www.avagotech.com

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