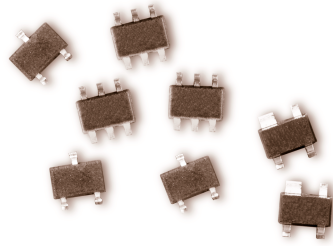


Selection Guide



Introduction

Avago Technologies Inc., a leading provider of innovative technologies for communications and life sciences, has the broadest product offering of surface mount Schottky and PIN diodes available today. Avago uses a first-in-class wafer fab to ensure repeatability from wafer to wafer.

About the Products

The Avago HSMS-2xxx and HMPS-xxxx series of Schottky-barrier diodes provide the most consistent performance available. These diodes feature low turn-on voltage (as low as 0.34 V at 1 mA).

The Avago HSMP-386x and HMPP-386x series of general purpose PIN diodes are designed for attenuator applications, where current consumption is the most important design consideration; and for RF switching, where low capacitance with no reverse bias is the driving issue for the designer.

The Avago HSMP-389x and HMPP-389x series of RF PIN switch diodes are optimized for switching applications where low resistance at low current combined with low capacitance is required. Low junction capacitance of the PIN diode chip, combined with ultra-low package parasitics, mean that these products may be used at frequencies which are higher than the upper limit for conventional PIN diodes.

Product Performance

- State of the art wafer fab
- Library of models available on the web
- Excellent reliability data

High Volume Manufacturing

Whole Product Offering

- Datasheets
- Application notes & support
- Samples and design tips

Features and Benefits

Features of Avago's diodes include:

- Wide range of surface mount packages
- Available in many different configurations
- Products that cover a broad frequency range
- High-volume manufacturing

Benefits of using Avago's diodes

- Broad market appeal
- Design tools and data on the web

Typical Applications

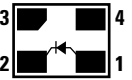
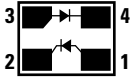
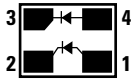
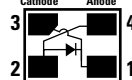
Schottky-barrier diodes for applications including:

- Mixers
- Detectors
- Clipping and clamping

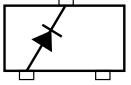
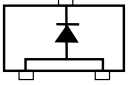
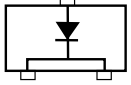
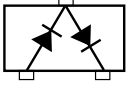
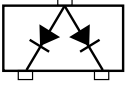
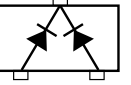
PIN diodes for applications including:

- Attenuator
- Switches
- Limiters

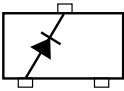
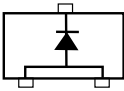
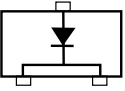
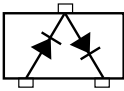
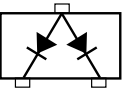
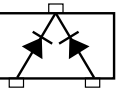
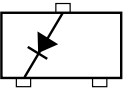
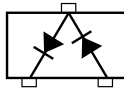
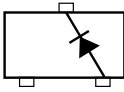
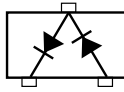
MiniPak

	Single	Anti-parallel	Parallel	Shunt Switch
Configuration	 (0)	 (2)	 (5)	 (T)
PIN	HMPP-3860	HMPP-3862	HMPP-3865	
	HMPP-3890	HMPP-3892	HMPP-3895	HMPP-389T
Schottky	HMPS-2820	HMPS-2822	HMPS-2825	

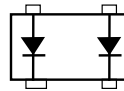
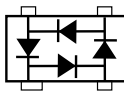
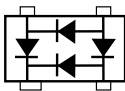
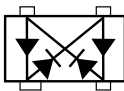
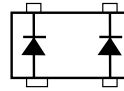
3 Lead Diodes SOT-323 (SC-70)

	Single	Dual Anode	Dual Cathode	Series Pair	Common Anode	Common Cathode
Configuration						
PIN	HSMP-381B		HSMP-481B	HSMP-381C	HSMP-381E	HSMP-381F
	HSMP-386B			HSMP-386C	HSMP-386E	HSMP-386F
	HSMP-389B	HSMP-489B		HSMP-389C	HSMP-389E	HSMP-389F
Schottky	HBAT-540B			HBAT-540C		
	HSMS-270B			HSMS-270C		
	HSMS-280B			HSMS-280C	HSMS-280E	HSMS-280F
	HSMS-281B			HSMS-281C	HSMS-281E	HSMS-281F
	HSMS-282B			HSMS-282C	HSMS-282E	HSMS-282F
	HSMS-285B			HSMS-285C		
	HSMS-286B			HSMS-286C	HSMS-286E	HSMS-286F

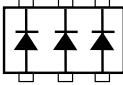
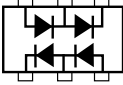
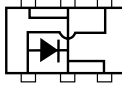
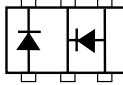
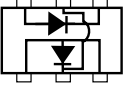
3 Lead Diodes SOT-23

	Single	Dual Anode	Dual Cathode	Series Pair	Common Anode	Common Cathode
Configuration						
PIN	HSMP-3810		HSMP-4810	HSMP-3812	HSMP-3813	HSMP-3814
	HSMP-3860			HSMP-3862	HSMP-3863	HSMP-3864
	HSMP-3890	HSMP-4890		HSMP-3892	HSMP-3893	HSMP-3894
Schottky	HBAT-5400			HBAT-5402		
	HSMS-2700			HSMS-2702		
	HSMS-2800			HSMS-2802	HSMS-2803	HSMS-2804
	HSMS-2810			HSMS-2812	HSMS-2813	HSMS-2814
	HSMS-2820			HSMS-2822	HSMS-2823	HSMS-2824
	HSMS-2860			HSMS-2862	HSMS-2863	HSMS-2864
						
	HSMS-2850			HSMS-2852		
						
	HSMS-8101			HSMS-8202		

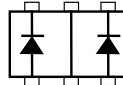
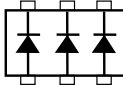
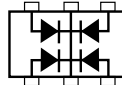
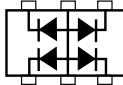
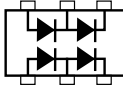
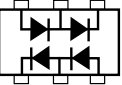
4 Lead Diodes SOT-143

	Unconnected Pair	Ring Quad	Bridge Quad	Crossover Quad
Configuration				
PIN	HSMP-3895			
Schottky	HSMS-2805		HSMS-2808	
	HSMS-2815	HSMS-2817	HSMS-2818	
	HSMS-2825	HSMS-2827	HSMS-2828	HSMS-2829
	HSMS-2865			
		HSMS-8207		HSMS-8209
				
	HSMS-2855			

6 Lead Diodes SOT-363 (SC-70)

	Unconnected Trio	Dual Mode Switch	Low Inductance	Series Shunt Pair	High Frequency Series Shunt Pair
Configuration	 L	 R	 T	 U	 V
PIN	HSMP-386L				
	HSMP-389L	HSMP-389R	HSMP-389T	HSMP-389U	HSMP-389V

6 Lead Diodes SOT-363 (SC-70)

	High Isolation Unconnected Pair	Unconnected Trio	Common Cathode Quad	Common Anode Quad	Bridge Quad	Ring Quad
Configuration	 K	 L	 M	 N	 P	 R
Schottky	HSMS-280K	HSMS-280L	HSMS-280M	HSMS-280N	HSMS-280P	HSMS-280R
	HSMS-281K	HSMS-281L				
	HSMS-282K	HSMS-282L	HSMS-282M	HSMS-282N	HSMS-282P	HSMS-282R
		HSMS-285L			HSMS-285P	
	HSMS-286K	HSMS-286L			HSMS-286P	HSMS-286R

PIN Diodes

Application	Part Number	C _t (pF) (max/typ)	R _s (Ω) (max)	V _{BR} (V) (min)	T _{rr} (nS) (typ)	Lifetime (nS) (typ)
Low distortion attenuator	HSMP-381x	0.35/0.27	3.0	100	300	1500
Low distortion/ low inductance attenuator	HSMP-481x	0.40/0.35	3.0	100	300	1500
Low inductance limiter	HSMP-482x	1.0/0.75	0.6	35	7	70
Low current switch/attenuator	HMPP/HSMP-386x	— /0.20	1.5 typ	50	80	500
Low resistance switch	HMPP/HSMP-389x	0.30/0.20	2.5	50	—	200
Low resistance/ low inductance switch	HSMP-489x	0.38/0.33	2.5	50	—	200

Schottky-Barrier Diodes

Application	Part Number	V _{BR} (V) (min)	V _F (mV) (max) I _F = 1 mA	V _F @ I _F (V @ mA) (max)	C _t (pF) (typ)	R _D (Ω) (typ)	Volt. Sens. (γ) (mV/mW)			R _V (KΩ) (typ)
							900 MHz	2.45 GHz	5.8 GHz	
General Purpose Detector	HMPS/HSMS-282x	15	340	0.7 @ 30	1.0	12.0	—	—	—	—
Clipping/Clamping	HBAT-540x	30	800	—	3.0	2.4	—	—	—	—
High Current Clipping/Clamping	HSMS-270x	15	550	—	—	—	—	—	—	—
Lowest flicker noise	HSMS-281x	20	400	1.0 @ 35	1.2	15.0	—	—	—	—
High V _{BR}	HSMS-280x	70	400	1.0 @ 15	2.0	35	—	—	—	—
Zero bias detector	HSMS-285x	—	250	0.15 @ 0.1	0.3	—	40	30	22	8
High frequency up to 14 GHz	HSMS-286x	4	350	0.25 @ 0.1	0.3	—	50	35	25	5
Mixer	HSMS-8x0x	4	350	0.25 @ 0.1	0.26	11.0	—	35	25	5

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

www.avagotech.com

Avago, Avago Technologies, and the A logo are trademarks of Avago Technologies, Limited in the United States and other countries.

Data subject to change. Copyright © 2006 Avago Technologies, Limited. All rights reserved.

Obsoletes 5988-8261EN

5988-9544EN May 25, 2006

