Surface Mount Diode Selection Guide[1]

SOT-23/-143 General Purpose Schottky-Barrier Diodes

Application	Part Number	V_{BR} (V) (min)	V_F (mV) (max)	V_F @ I_F (V @ mA) (max)	C_t (pF) (max)	R_D (Ω) (typ)
Best overall	HSMS-282X	15	340	0.7 @ 30	1.0	12
Lowest flicker noise	HSMS-281X	20	400	1.0 @ 35	1.2	15
High V_{BR}	HSMS-280X	70	400	1.0 @ 15	2.0	35

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair, "4" for a common cathode pair, all of the foregoing in SOT-23; and "5" for an unconnected pair, "7" for a ring quad, "8" for a bridge quad, and "9" (282X only) for a crossover quad in SOT-143.

SOT-23/-143 High Frequency Mixer Schottky-Barrier Diodes

Application	Part Number	V_{BR} (V) (min)	V_F (mV) (min/max)	C_t (pF) (max)	R_D (Ω) (max)
Up to 14 GHz	HSMS-8101 (single)	4	250/350	0.26	14
Up to 14 GHz	HSMS-820X	4	250/350	0.26	14

The "X" in the above part numbers is replaced by "2" for a series pair in SOT-23, and "5" for an unconnected pair, and "7" for a ring quad in SOT-143.

SOT-23/-143 Detector Schottky-Barrier Diodes

Application	Part Number	V_{BR} (V) (min)	V_F (mV) (max)	C_t (pF) (typ)	Voltage Sensitivity (γ) (mV/μW) (typ @ 900 MHz)	R_V (KΩ) (typ)
Zero bias	HSMS-285X	-	150	0.30	40	8.0
NEW High frequency up to 12 GHz	HSMS-286X	5	250	0.30	50	5.0

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair (286X only), "4" for a common cathode pair (286X only) all of the foregoing in SOT-23; and "5" for an unconnected pair in SOT-143.

Note:
1. See specific product data sheet for test conditions.

NEW SOT-323 Schottky-Barrier Diodes

	Application	Part Number	V_{BR} (V) (min)	V_F (mV) (max)	V_F @ I_F (V @ mA) (max)	C_t (pF) (typ)	R_D (Ω) (typ)	Volt. Sens. (γ) (mV/μW) (typ @ 900 MHz)	R_V (KΩ) (typ)
NEW	Best overall general purpose	HSMS-282A	15	340	0.7 @ 30	1.0	12	-	-
NEW	Lowest flicker noise	HSMS-281A	20	400	1.0 @ 35	1.2	15	-	-
NEW	High V_{BR}	HSMS-280A	70	400	1.0 @ 15	2.0	35	-	-
NEW	Zero bias detector	HSMS-285A	-	150	-	0.30	-	40	8.0
NEW	High frequency detector	HSMS-286A	5	250	-	0.30	-	50	5.0

The "A" in the above part number is replaced by "B" for a single diode configuration, "C" for a series pair, "E" for a common anode pair, and "F" for a common cathode pair ("B" and "C" only for HSMS-285A).

NEW SOT-363 Schottky-Barrier Diodes

	Application	Part Number	V_{BR} (V) (min)	V_F (mV) (max)	V_F @ I_F (V @ mA) (max)	C_t (pF) (typ)	R_D (Ω) (typ)	Volt. Sens. (γ) (mV/μW) (typ @ 900 MHz)	R_V (KΩ) (typ)
NEW	Best overall general purpose	HSMS-282a	15	340	0.7 @ 30	1.0	12	-	-
NEW	Lowest flicker noise	HSMS-281L	20	400	1.0 @ 35	1.2	15	-	-
NEW	High V_{BR}	HSMS-280a	70	400	1.0 @ 15	2.0	35	-	-
NEW	Zero bias detector	HSMS-285L/P	-	150	-	0.30	-	40	8.0
NEW	High frequency detector	HSMS-286L/P/R	5	250	-	0.30	-	50	5.0

The "a" in the above part number is replaced by "L" for an unconnected trio configuration, "M" for a common cathode quad, "N" for a common diode quad, "P" for a bridge quad, and "R" for a ring quad.

SOT-23 Attenuator 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)
	Lowest distortion	HSMP-381X	0.35/0.27	3.0	100	300	1500
	Lowest distortion/ low inductance	HSMP-4810	0.40/0.35	3.0	100	300	1500
	Specialty	HSMP-383X	0.30/0.20	1.5	200	80	500
NEW	Low distortion	HSMP-380X	0.37/0.32	2.0	100	500	1800

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair, and "4" for a common cathode pair.

SOT-23/-143 Switching 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)
Best 900 MHz	HSMP-389X	0.30/0.20	2.5	100	-	200
>2 GHz shunt	HSMP-4890	0.38/0.33	2.5	100	-	200
Low Rs	HSMP-382X	0.80/0.60	0.6	50	7	70
Low Rs/ low inductance	HSMP-4820	1.00/0.75	0.8	50	7	70
High power	HSMP-3880	0.40/0.30	6.5	100	550	2500
Specialty	HSMP-383X	0.30/0.20	1.5	200	80	500

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair, "4" for a common cathode pair, all of the foregoing in SOT-23, and "5" for an unconnected pair in SOT-143.

SOT-23 Power Limiter 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 Rs	HSMP-382X	0.80/0.60	0.6	50	7	70
Low Rs/ low inductance	HSMP-4820	1.00/0.75	0.8	50	7	70

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair, and "4" for a common cathode pair.

NEW SOT-23 General Purpose PIN Diode

	Application	Part Number	C_t (pF) (typ)	R_T (Ω) (typ)	V_{BR} (V) (min)	T_{rr} (nS) (typ)	Lifetime (nS) (typ)
NEW	General Purpose	HSMP-386X	0.20	1.5	50	80	500

The "X" in the above part numbers is replaced by "0" for a single diode configuration, "2" for a series pair, "3" for a common anode pair, and "4" for a common cathode pair.

NEW SOT-323 PIN Diodes

	Application	Part Number	C_t (pF) (max/typ)	R_T (Ω) (max)	V_{BR} (V) (min)	T_{rr} (nS) (typ)	Lifetime (nS) (typ)
NEW	Attenuator	HSMP-381A	0.35/0.27	3.0	100	300	1500
NEW	Switching	HSMP-389A	0.30/0.20	2.5	100	-	200
NEW	General Purpose	HSMP-386A	- /0.20	1.5 (typ)	50	80	500

The "A" in the above part number is replaced by "B" for a single diode configuration, "C" for a series pair, "E" for a common anode pair, and "F" for a common cathode pair.

NEW SOT-363 PIN Diodes

	Application	Part Number	C_t (pF) (max/typ)	R_T (Ω) (max)	V_{BR} (V) (min)	T_{rr} (nS) (typ)	Lifetime (nS) (typ)
NEW	Switching	HSMP-389a	0.30/0.20	2.5	100	-	200

The "a" in the above part number is replaced by "L" for an unconnected trio configuration, "T" for a low inductance single, and "U" for a series-shunt pair.

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