



SPD Series

Package Type GaAs Schottky Barrier Diode

C to Ku Band Mixer, Detector, Modulator Applications

Features

- Very small-sized ceramic package.
- Less parasitic components, conversion loss.
- Many types : 5 single types, 10 integrated types.

Applications

- SPD-121 : C to X band use, DBS measuring instruments.
- SPD-121M : C to X band use, TVRO, DBS.
- SPD-221 : X to Ku band use, communications equipment.
- SPD-121P, 122P : C to X band use, mixer, modulator.

Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	SPD-121	121M	221	121P	122P	Unit
Reverse Voltage	V_R		→	→	→	→	4	V
Peak Reverse Voltage	V_{RM}		→	→	→	→	4.5	V
Average Rectified Current	I_O		→	→	→	→	50	mA
Peak Forward Current	I_{FM}		→	→	→	→	150	mA
Storage Temperature	T_{stg}		→	→	→	→	-65 to +150	$^\circ\text{C}$
Junction Temperature	T_j		→	→	→	→	150	$^\circ\text{C}$
Mounting Condition	T_m	10 s	→	→	→	→	230	$^\circ\text{C}$

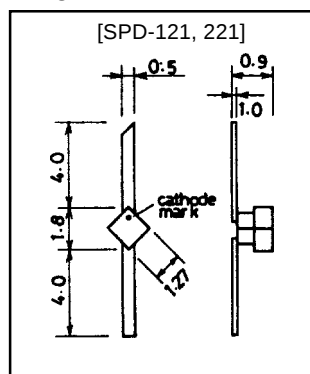
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	SPD-121	121M	221	121P	122P	Unit
Reverse Voltage	V_R	$I_R=10\mu\text{A}$	→	→	→	→	-4	V min
Forward Voltage	V_F	$I_F=20\text{mA}$	0.9	0.9	1.0	0.9	0.9	V max
Total Capacitance	C_t	$V=0\text{V}$, $f=1\text{MHz}$	0.3	0.35	0.25	0.4	0.4	pF max
Series Resistance	R_s	$I_F=20\text{mA}$	1.5	1.5	2.5	1.5	1.5	Ω
Conversion Loss	L_C	$f=10.678\text{GHz}$, $P_{LO}=10\text{mW}$	3.7	3.8	3.6	4.0	4.0	dB

Package Dimensions

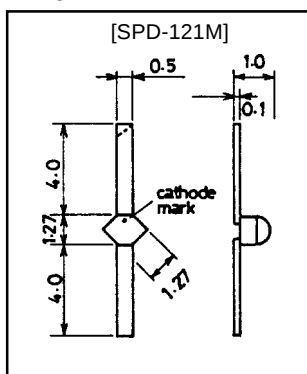
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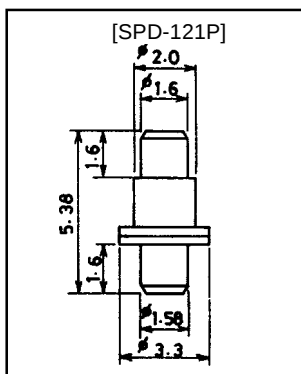
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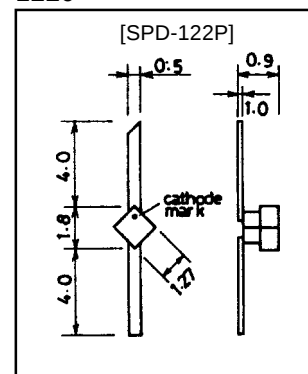
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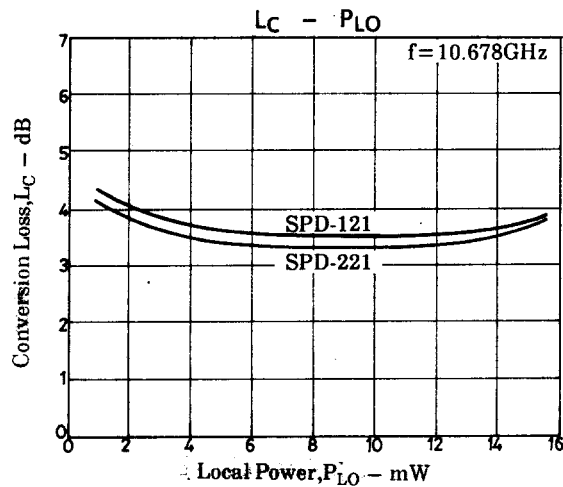
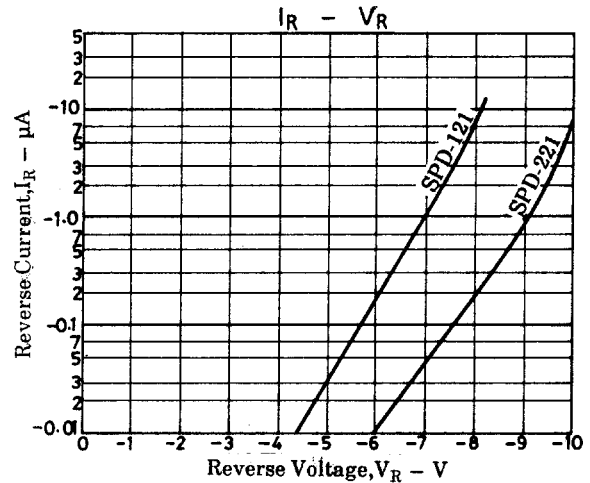
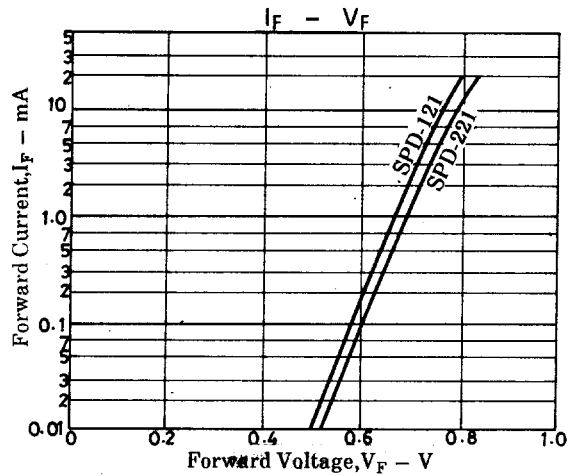


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SPD Series

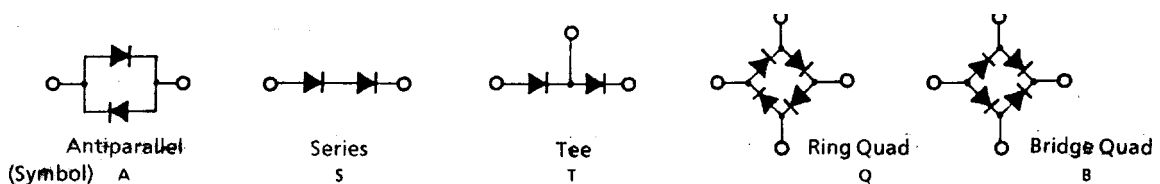


Electrical Connection



Note: In addition to the single types shown above, the integrated types shown below are available. For details, contact our sales offices.

Electrical Connection



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