



SBL Series

Beam Lead Type GaAs Schottky Barrier Diode C to Millimeter Band Mixer, Detector, Modulator Applications

Features

- Facilitates easy mounting on MIC (Microwave IC).
- Less parasitic components, conversion loss.
- Usable in millimeter wave band.
- In addition to 7 single types, 20 integrated types are available.

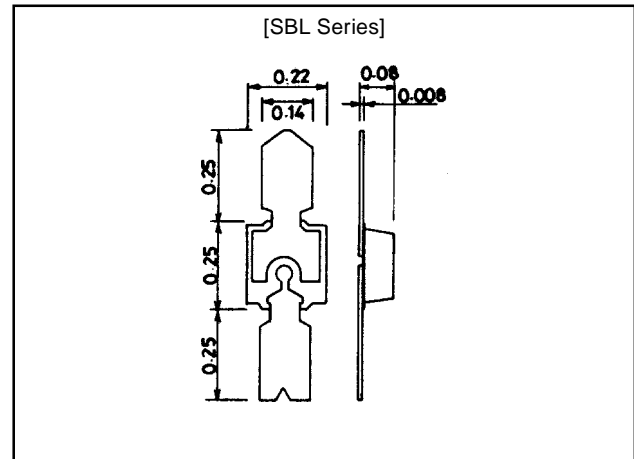
Applications

- SBL-121, 122 : C to X band use, 12GHz band DBS receiving equipment.
- SBL-801 to 804 : Submillimeter wave, millimeter wave band communications equipment, measuring instruments.
- SBL-221 : 22GHz band DBS receiving equipment.

Package Dimensions

unit:mm

1226



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	SBL-121	122	801	802	221	803	804	Unit
Reverse Voltage	V_R		→	→	→	→	→	→	4	V
Peak Reverse Voltage	V_{RM}		→	→	→	→	→	→	4.5	V
Average Rectified Current	I_O		→	→	→	50	→	→	30	mA
Peak Forward Current	I_{FM}		→	→	→	150	→	→	130	mA
Storage Temperature	T_{stg}		→	→	→	→	→	→	-65 to +150	°C
Junction Temperature	T_j		→	→	→	→	→	→	150	°C
Mounting Condition	T_m	10 s	→	→	→	→	→	→	200	°C

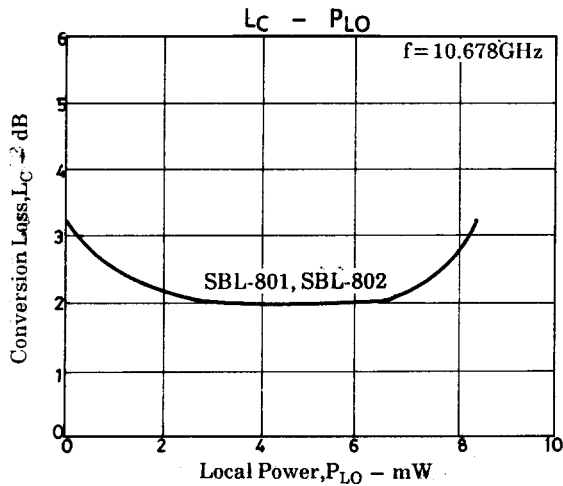
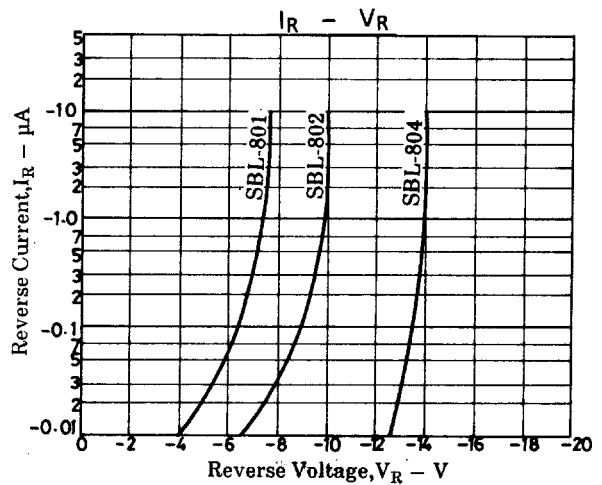
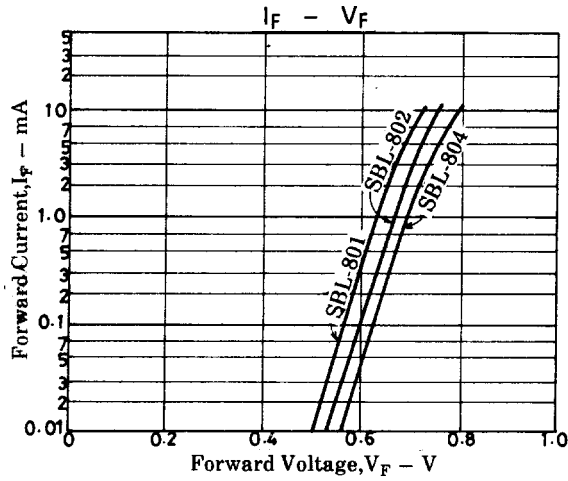
Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	SBL-121	122	801	802	221	803	804	Unit
Reverse Voltage	V_R	$I_R=10\mu A$	→	→	→	→	→	→	-4	V
Forward Voltage	V_F	$I_F=30mA$	0.9	1.0	0.9	1.0				V
		$I_F=20mA$					1.1	1.1	1.2	V
Total Capacitance	C_t	$V=0V, f=1MHz$	0.25	0.30	0.20	0.15	0.08	0.10	0.08	pF max
Series Resistance	R_s	$I_F=30mA$	2	3	2	4				Ω max
		$I_F=20mA$					6	6	10	Ω max
Conversion Loss	L_C	$f=12GHz, P_{LO}=10mW$	2.5	3.5						dB
		$f=20GHz, P_{LO}=10mW$			4.5	4.5		5.0	5.0	dB
		$f=22GHz, P_{LO}=10mW$					4.5			dB

Electrical Connection

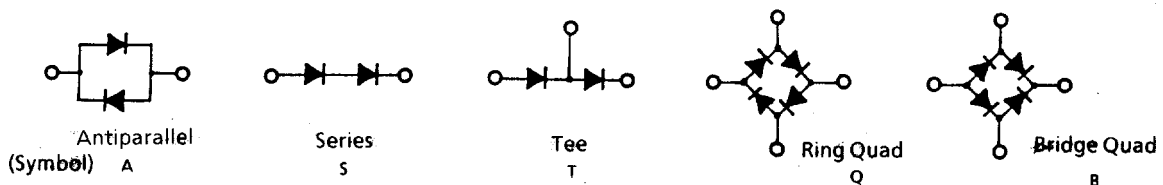


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Note: For the SBL-801, 802, 803, 804, the integrated types shown below are available in addition to single types. For details, contract our sales offices.

Electrical Connection



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
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