

# SALUT – ELECS Ltd.

Nizhny Novgorod Russia

Aus dem Jahr 2000. Mittlerweile ist die Firma nicht mehr tätig.

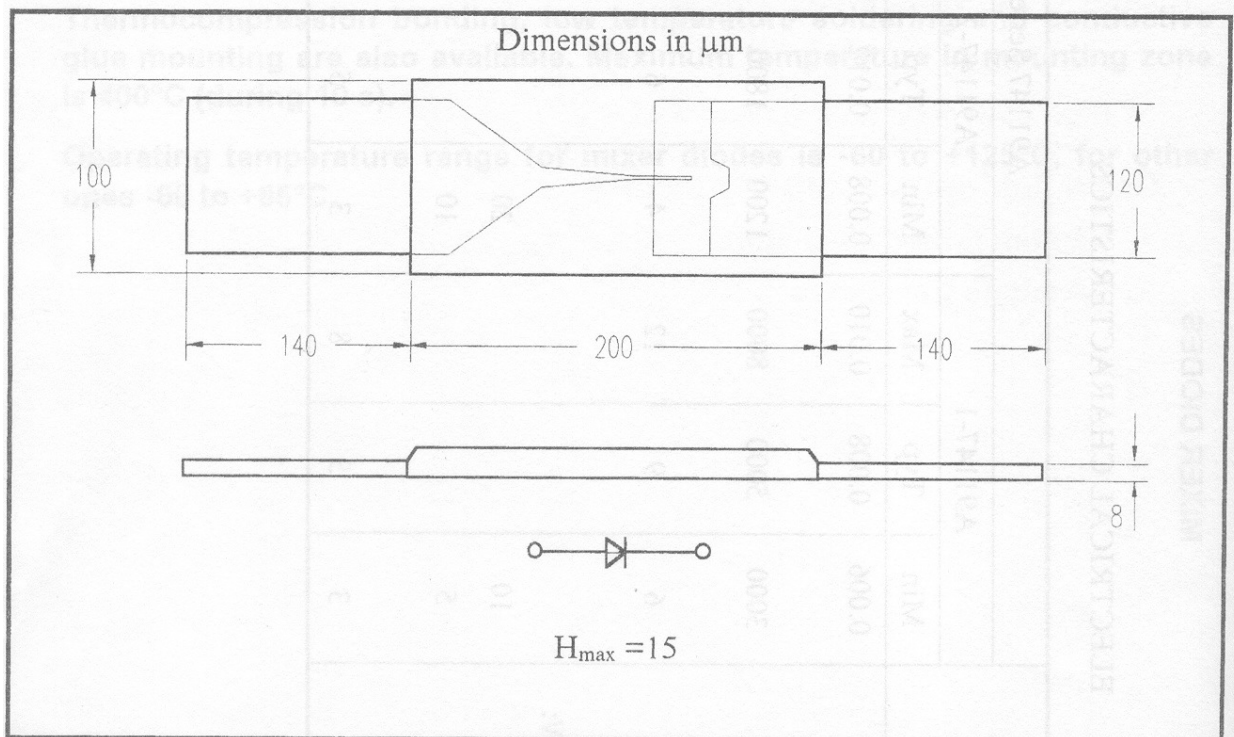
## MIXER DIODES

### ELECTRICAL CHARACTERISTICS

Designation	Parameters	A91147 Series								
		A91147-1			A91147-2			A91147-3		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
C <sub>T0</sub>	Total capacitance*, pF (V <sub>rev</sub> =0 V)		0,008	0,010		0,012	0,020		0,030	0,050
f <sub>c</sub>	Cutoff frequency**, GHz (V <sub>rev</sub> =0 V)	3000			1200			800		
R <sub>s</sub>	Series resistance, Ohm (I <sub> fwd</sub> = 10 mA)		10	15		8,0	12		3,5	8,0
P <sub>dis</sub>	Dissipated RF power, CW, mW: @ t = +20°C	10			20			30		
V <sub>B</sub>	Breakdown voltage, V (I <sub>rev</sub> = 5 μA)	3	5		3	5		3	5	

\*Measured at f = 1 MHz

\*\*  $f_c = \frac{1}{2\pi R_s C_{j0}}$ , where  $C_{j0} = C_{T0} - 0.005$  pF.



Outline Drawing No. 1.1

Vervielfacher Dioden

3A643  
-A92220-Series: ELECTRICAL CHARACTERISTICS

Denotation	Parameters	3A643A-3 -A92220-1-			3A643B-3 -A92220-2-			3A643C-3 -A92220-3-			3A643D-3 -A92220-4-			3A643E-3 -A92220-5-		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
$C_T^0$	Total capacitance (pF) ( $V_{rev} = 0$ V, $f = 1$ MHz)	0.02		0.04	0.04		0.06	0.06		0.1	0.1		0.15	0.15		0.2
$C_T^{-6^*}$	Total capacitance (pF) ( $V_{rev} = -6$ V, $f = 1$ MHz)		0.012	0.015		0.015	0.02		0.02	0.025		0.03	0.04		0.04	0.05
$f_c^{-6^{**}}$	Cutoff frequency (GHz) ( $V_{rev} = -6$ V)	3000	3600		3000	3200		3000	3200		2500	3000		2000	2500	
$V_B$	Breakdown voltage (V) ( $I_{rev} = 10$ $\mu$ A)	12	15		12	15		12	15		12	15		12	15	
$P_{dii}$	Dissipated RF power, CW (mW)	30			40			60			80			100		

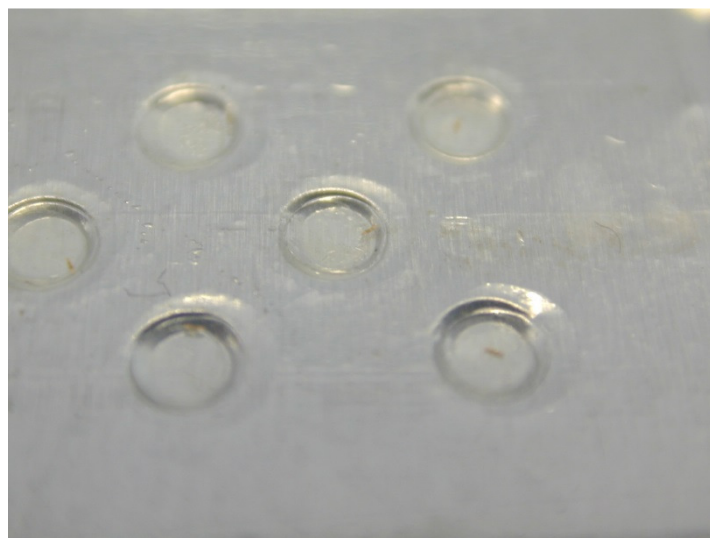
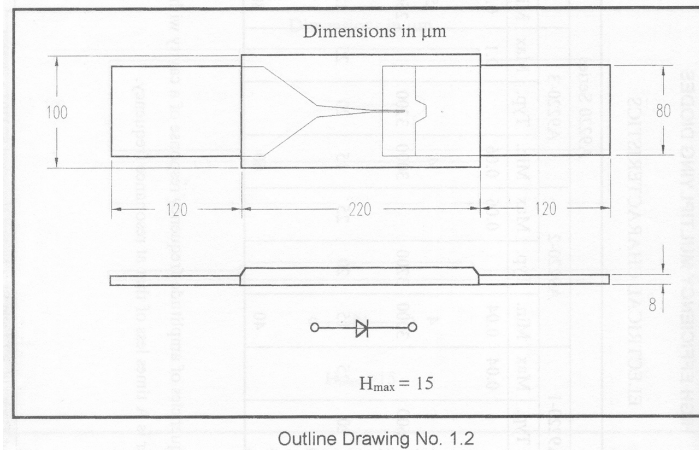
Total inductance = 0.1 nH

Drawing N1.2

\* Typical stray capacitance is 0.005 pF.

$$f_c = \frac{f_1 \times f_2 \sqrt{A} - 1}{f_2 - f_1}$$

where  $f_1$  and  $f_2$  are frequencies of amplitude-frequency response of a cavity with a diode at which passing power is A times of that at resonance frequency.



Dioden Verpackung.

MICROWAVE TRANCEIVER FRONT ENDS

For communications systems

- Low conversion loss
- Low noise figure
- Low LO frequency

Include:\*

- SETR 3101 balanced mixer, doubler
- SETR 3201 balanced mixer, tripler
- SETR 3301 subharmonic balanced mixer, tripler
- SETR 3401 subharmonic balanced mixer, doubler, tripler

SPECIFICATIONS

Parameters	Model							
	SETR 3101		SETR 3201		SETR 3301		SETR 3401	
	RX mode	TX mode	RX mode	TX mode	RX mode	TX mode	RX mode	TX mode
RF frequency* **, GHz								
input	47		76		145		241	
output		47		76		145		241
LO frequency, GHz	23.4	23.4	25.3	25.3	24.1	24.1	20.1	20.1
IF frequency* **, MHz								
input		144		144		144		144
output	144		144		144		144	
Noise figure <sub>DSB</sub> , max, dB								
@ NF <sub>IFA</sub> = 1.5 dB	4.5	-	5	-	13	-	13.5	-
Conversion loss, max, dB	4.5	4.5	5.5	5.5	14	14	14	14
Driver LO power, mW	80	80	80	80	80	80	100	100

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1	2	3	4	5	6	7	8	9
P <sub>in</sub> at 1dB CP, mW	6.2		3.2		1.6		0.2	
LO/RF isolation, min, dB	20		20		18		18	
LO/IF isolation, min, dB	20		20		18		18	
RF VSWR, max	2	2	2	2	2.5	2.5	2.5	2.5
IF VSWR, max	2	2	2	2	2	2	2	2
LO VSWR	2	2	2	2	2	2	2	2
IF driver power, max, mW	-	15	-	15	-	10	-	2.5
Output power, min, mW	-	3	-	2	-	0.5	-	0.2
Supply voltage of multiplier, V	7-9	7-9	4-6	4-6	4-6	4-6	2-3 for doubler 5-10 for tripler	
Drawing	3.23		3.24		3.25		3.26	

Operating temperature range, °C

RF input/output waveguide

Multiplier input, IF input/output SMA female

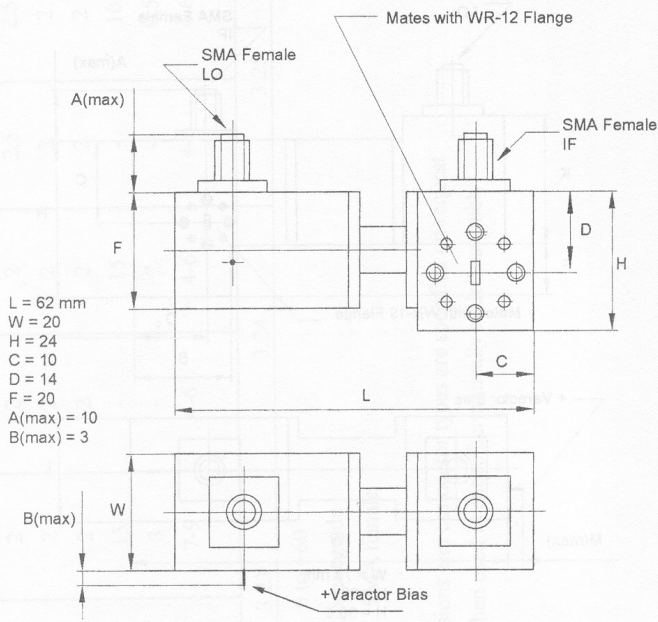
\* LO/driver can be included on request.

\*\*RF and IF frequencies, waveguide flange dimensions and connector types are specified on request.

Operating temperature range - 50 to + 60 °C when used in entire hermetically sealed assembly.

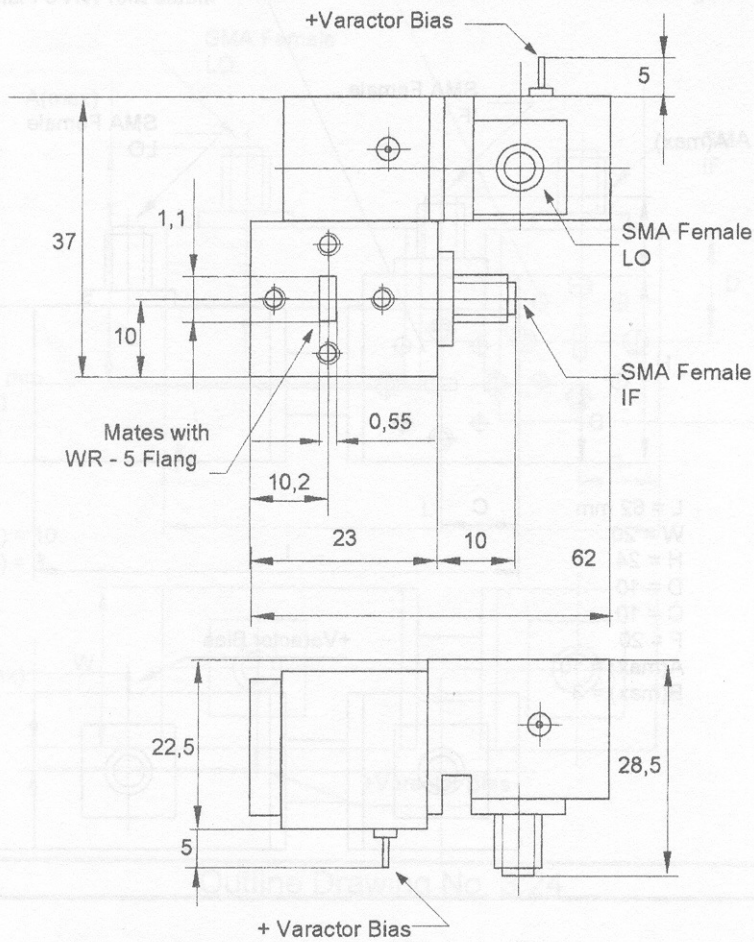
Rugged construction.

SETR3201



Outline Drawing No. 3.24

SETR 3401



Outline Drawing No. 3.26