

ZFSWA2-63DR+ PCN Report

AN-80-011

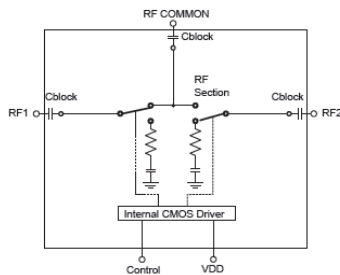
As a result of obsolescence of the original dice used in MMIC inside, the re-design effort includes the use of a new set of dice in existing package maintaining existing case style. The replacement MMIC has been judged by Mini-Circuits Engineering as a suitable replacement for the existing ZFSWA2-63DR+.

APPLICATION CIRCUITS & CASE STYLES

ORIGINAL PART: ZFSWA2-63DR+

REPLACEMENT PART: ZFSWA2-63DR+

APPLICATION CIRCUIT: No Change



CASE STYLE: ZZ1322: No Change



- a. Suitability within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

CONCLUSION:

- 1) **FORM-FIT-FUNCTIONAL COMPATIBLE₃**: Form & FIT Compatible with minor Functional Changes as follows:

ORIGINAL PART: ZFSWA2-63DR+	REPLACEMENT PART: ZFSWA2-63DR+
Control Voltage High: 2.7V min, V_{DD} max	Control Voltage High: 2.7V min*, V_{DD} max * V_{DD} = 3 to 4V, Control Voltage High = 2.7V min V_{DD} = 4 to 5V, Control Voltage High = 3.5V min
Supply Current (V_{DD} = 5V): 18uA typ	Supply Current (V_{DD} = 5V): 50uA typ

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2) TYPICAL PERFORMANCE COMPARISON ON CONNECTORIZED UNIT ^a: T_{AMB}=25°C, V_{DD}=5V

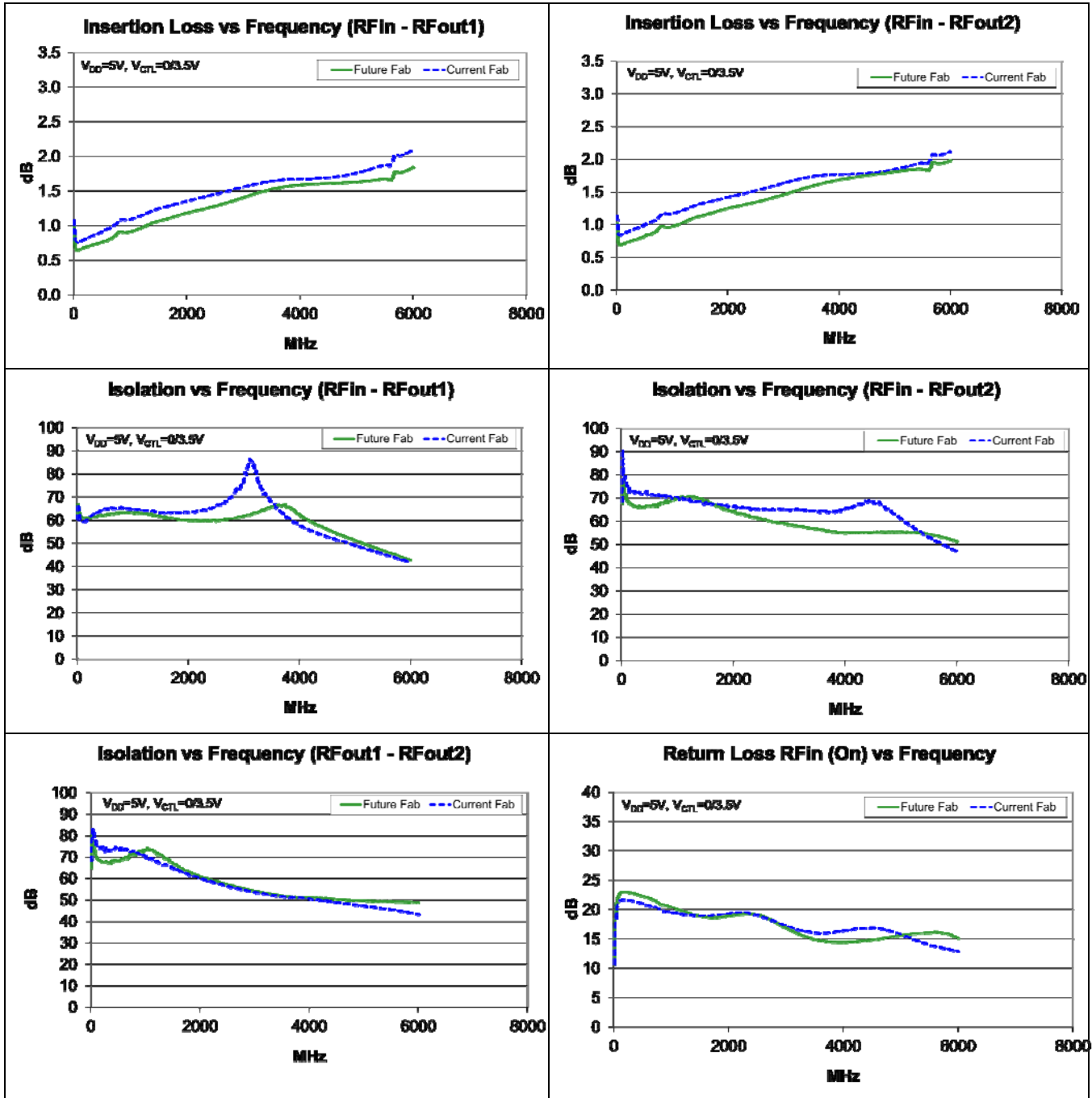
	Condition (MHz)	Current Fab			Future Fab		
		Min	Max	Average	Min	Max	Average
Insertion Loss (dB)	500	0.91	1.00	0.96	0.73	0.85	0.79
	1000	1.09	1.17	1.13	0.89	1.02	0.94
	2000	1.35	1.42	1.39	1.17	1.26	1.23
	4000	1.67	1.77	1.72	1.50	1.73	1.63
	6000	2.09	2.12	2.10	1.84	2.14	2.02
Isolation RF-IN to RF-OUT (dB)	500 to 2000	63.06	71.78	64	59.18	73.07	62
	2000 to 4000	57.72	86.29	59	53.82	89.34	57
	4000 to 6000	41.76	68.93	44	40.55	65.52	44
Isolation OUT1 to OUT2 (dB)	500 to 2000	58.83	74.49	60	57.76	74.87	60
	2000 to 4000	48.70	60.26	50	46.84	62.29	50
	4000 to 6000	43.33	50.60	45	44.60	51.97	45
Return Loss RF-IN (dB)	500 to 2000	18.92	21.94	19	18.05	23.17	19
	2000 to 4000	15.72	20.29	16	14.41	20.12	16
	4000 to 6000	12.90	16.88	13	11.37	17.55	13
Return Loss RF-OUT (ON) (dB)	500 to 2000	21.23	25.78	22	22.64	39.24	23
	2000 to 4000	14.49	26.03	15	13.24	46.85	15
	4000 to 6000	14.77	17.60	14	11.59	16.09	13
Return Loss RF-OUT (OFF) (dB)	500 to 2000	11.57	13.17	13	12.02	31.95	13
	2000 to 4000	11.71	13.03	13	14.73	31.95	17
	4000 to 6000	12.94	18.03	13	10.37	17.49	12

3) TYPICAL PERFORMANCE COMPARISON OF MMIC INSIDE: T_{AMB}=25°C, V_{DD}=5V

	Condition (MHz)	Current Fab			Future Fab		
		Min	Max	Average	Min	Max	Average
Input IP3 (dBm)	500 to 2000	43.40	49.50	47	43.90	48.40	47
	2000 to 6000	36.50	45.40	43	37.30	45.70	43
Switching Time (ns)							
Rise Time at OUT1		17.93	19.95	18	15.58	16.32	16
Rise Time at OUT2		28.64	78.79	35	19.58	24.13	20
Fall Time at OUT1		0.75	3.40	3	0.82	1.61	1
Fall Time at OUT2		15.20	20.22	18	20.03	20.83	20
ON Time at OUT1		29.45	32.23	30	24.89	27.62	25
ON Time at OUT2		53.87	111.93	63	41.68	50.47	43
OFF Time at OUT1		8.07	10.78	9	3.30	4.65	4
OFF Time at OUT2		27.43	29.95	28	4.38	7.21	5

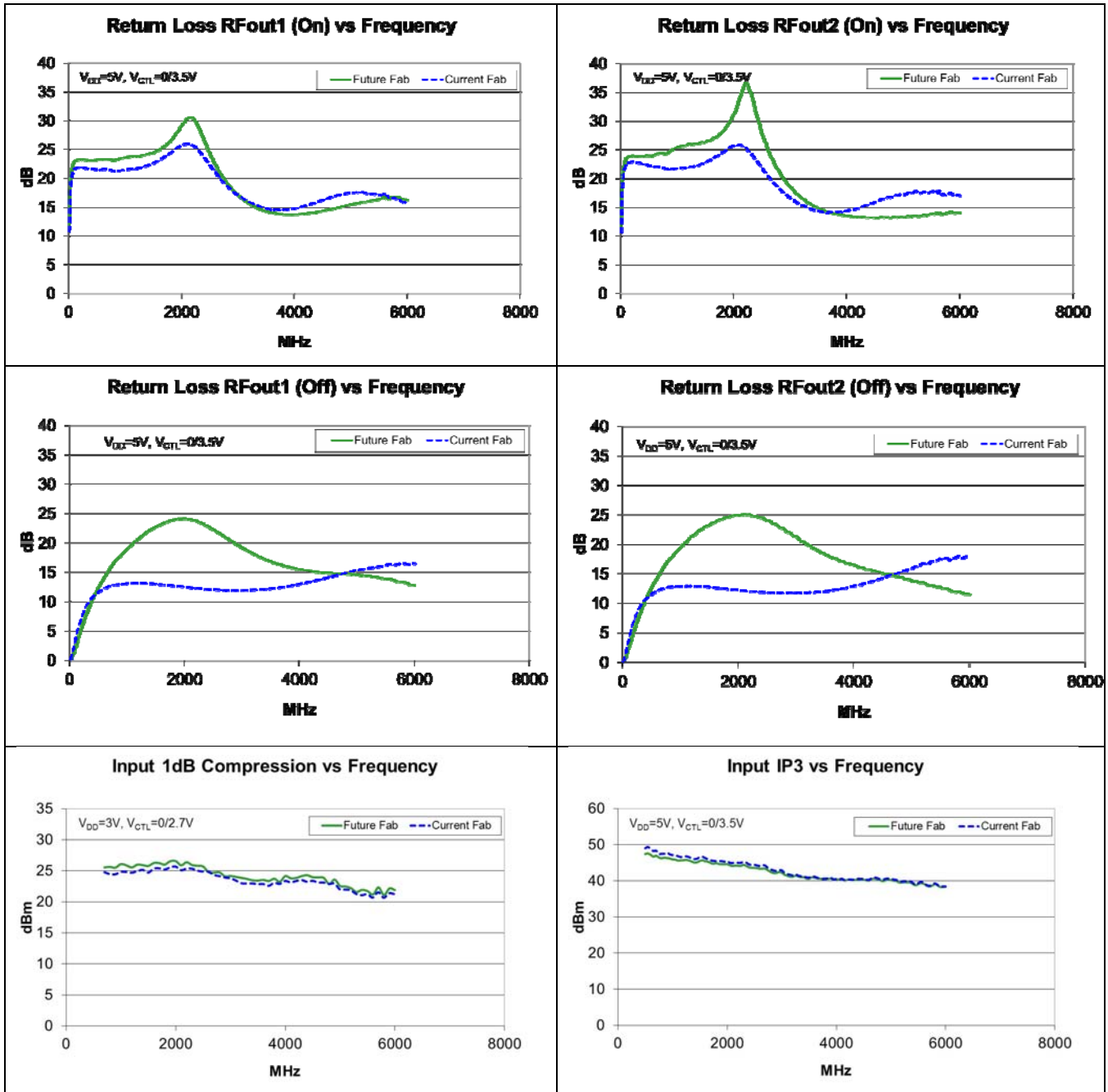
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COMPARISON PERFORMANCE CURVES^a:



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COMPARISON PERFORMANCE CURVES^a (Continued):



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