

PACIFIC MONOLITHICS

DATA SHEET

0.8 TO 17.0 GHz VOLTAGE-CONTROLLED GaAs MMIC OSCILLATORS

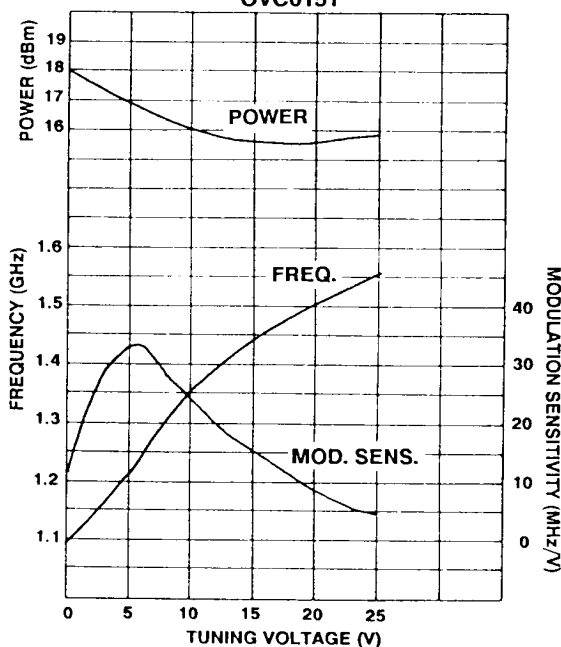
FEATURES

WIDE TUNING BANDWIDTHS
UP TO 200 mW OUTPUT POWER
HIGH LOAD ISOLATION
INTERNAL VOLTAGE REGULATORS

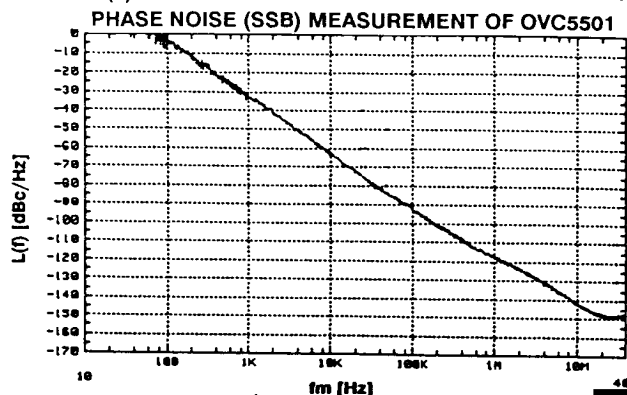
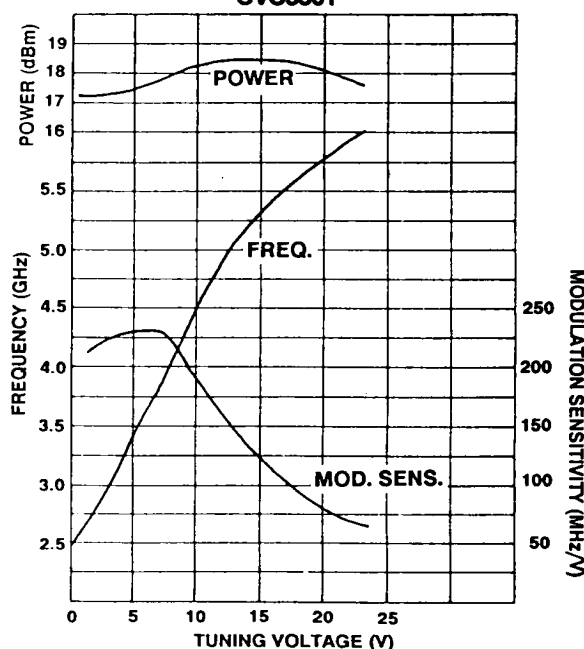
SURFACE-MOUNT CAPABILITY
SMALL SIZE
HIGH RELIABILITY

Pacific Monolithics offers a family of small, surface-mountable, highly reliable voltage-controlled oscillators. These oscillators use a negative-resistance ("-R") GaAs MMIC chip with spiral inductors and an external varactor diode. The "-R" GaAs MMIC chip contains a series feedback FET, interconnection matching circuits, buffer amplifier, and all the necessary bias network on a single 48 x 48 MIL area. The external varactor diode approach provides freedom of frequency and bandwidth selection, along with high Q characteristics. The monolithic VCOs can be easily interconnected with MMIC amplifiers, switches, mixers, prescalers, power dividers, and voltage regulators to achieve multifunction capabilities in a reduced size. The small, surface-mountable GaAs MMIC oscillators are ideal for most compact and densely packaged equipment designs. They are well suited for applications in built-in test equipment (BITE), compact phase-locked sources for EW systems, and low-cost commercial equipments, in addition to conventional oscillator applications. Hermetic sealing and MIL-STD 883 screening are available.

TYPICAL PERFORMANCE AT 25°C
OVC0151



TYPICAL PERFORMANCE AT 25°C
OVC5501



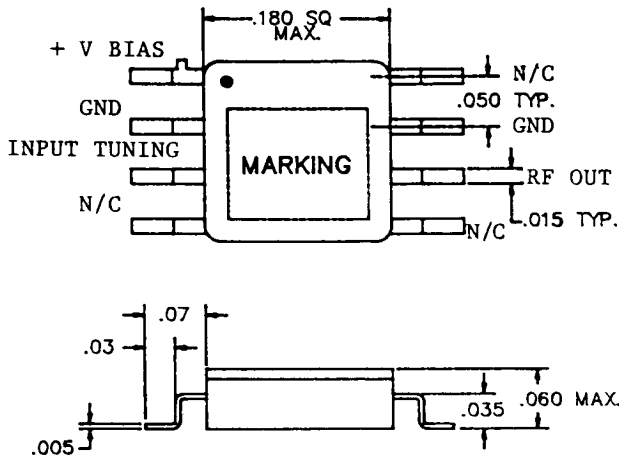
Solutions for Wireless Communications.

SPECIFICATIONS (GUARANTEED @ 25°C CASE TEMPERATURE)

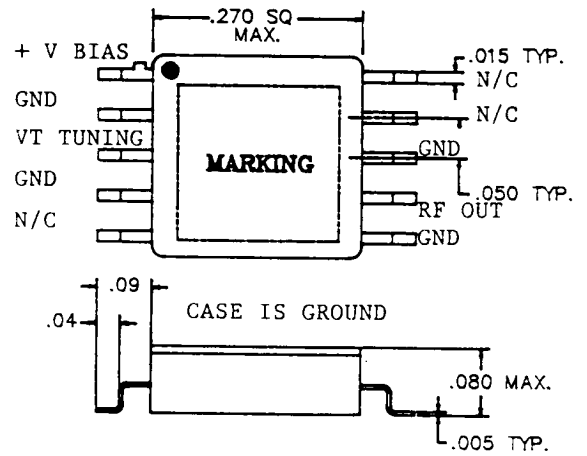
MODEL	FREQUENCY RANGE (GHz)	OUTPUT POWER (dBm)	OPERATING TEMPERATURE (°C) ⁽¹⁾	FREQUENCY DRIFT (MHz)	FREQUENCY PULLING [1.67:1 VSWR] (MHz)	OUTPUT POWER VARIATION (dB)	FREQUENCY PUSHING (MHz)	HARMONICS (dBc)	SPURIOUS OUTPUT (dBc)	TUNING VOLTAGE RANGE (V)	TUNING PORT CAPACITANCE (pF)	PHASE NOISE (dBc/Hz) @50KHz	SSB PHASE NOISE (dBc/Hz) @100KHz	VOLTAGE CURRENT (mA)	INPUT POWER (mW)	PACKAGE STYLE ⁽²⁾⁽³⁾	BLOCK DIAGRAMS
ULTRA-SMALL VCOs																	
OVC0270	2.0-2.7	+15	0 to +50	60	28	3.0	20	-10	-60	0 to -20	100	-81	-90	+8	65	"A"	
OVC0350	2.5-3.5	+15	0 to +50	60	36	3.0	20	-12	-60	0 to -20	100	-81	-90	+8	65	"A"	
OVC0400	3.0-4.0	+15	0 to +50	60	40	3.0	35	-10	-60	0 to -20	100	-81	-90	+8	65	"A"	
OVC0450	3.5-4.5	+13	0 to +50	75	44	3.0	40	-12	-60	0 to -20	100	-76	-85	+8	55	"A"	
OVC0500	4.0-5.0	+13	0 to +50	85	50	3.0	50	-10	-60	0 to -20	100	-76	-85	+8	55	"A"	
OVC0550	4.5-5.5	+13	0 to +50	85	54	3.0	54	-10	-60	0 to -20	100	-76	-85	+8	55	"A"	
OVC0600	5.0-6.0	+13	0 to +50	85	60	3.0	60	-12	-60	0 to -20	100	-76	-85	+8	55	"A"	
OVC0650	5.5-6.5	+13	0 to +50	85	64	3.0	64	-12	-60	0 to -20	100	-76	-85	+8	55	"A"	
SMALL VCOs WITH VOLTAGE REGULATOR																	
OVC0101	0.8-1.0	+14	0 to +50	50	10	3.0	0.50	-7	-60	0 to -20	150	-86	-95	+12	75	"B"	
OVC0131	1.0-1.3	+14	0 to +50	50	13	3.0	0.50	-7	-60	0 to -20	150	-86	-95	+12	75	"B"	
OVC0151	1.2-1.5	+14	0 to +50	50	15	3.0	0.50	-10	-60	0 to -20	150	-86	-95	+12	75	"B"	
OVC0181	1.4-1.8	+14	0 to +50	50	18	3.0	0.50	-12	-60	0 to -20	150	-86	-95	+12	75	"B"	
OVC0201	1.6-2.0	+14	0 to +50	50	20	3.0	0.50	-10	-60	0 to -20	150	-81	-90	+12	75	"B"	
OVC0231	1.8-2.3	+15	0 to +50	60	24	3.0	0.75	-10	-60	0 to -20	100	-81	-90	+12	65	"B"	
OVC0271	2.0-2.7	+15	0 to +50	60	28	3.0	0.75	-10	-60	0 to -20	100	-81	-90	+12	65	"B"	
OVC0351	2.5-3.5	+15	0 to +50	60	36	3.0	0.75	-12	-60	0 to -20	100	-81	-90	+12	65	"B"	
OVC0401	3.0-4.0	+15	0 to +50	60	40	3.0	0.75	-12	-60	0 to -20	100	-81	-90	+12	65	"B"	
OVC0451	3.5-4.5	+13	0 to +50	75	44	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+12	65	"B"	
OVC0501	4.0-5.0	+13	0 to +50	85	50	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+12	55	"B"	
OVC0551	4.5-5.5	+13	0 to +50	85	54	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+12	55	"B"	
OVC0601	5.0-6.0	+13	0 to +50	85	60	3.0	1.00	-12	-60	0 to -20	100	-76	-85	+12	55	"B"	
OVC0651	5.5-6.5	+13	0 to +50	85	64	3.0	1.00	-12	-60	0 to -20	100	-76	-85	+12	55	"B"	
SMALL MEDIUM POWER VCOs																	
OVC0272	2.0-2.7	+23	0 to +50	60	28	3.0	0.75	-10	-60	0 to -20	100	-81	-90	+15	350	"D"	
OVC0352	2.5-3.5	+23	0 to +50	60	36	3.0	0.75	-10	-60	0 to -20	100	-81	-90	+15	350	"D"	
OVC0402	3.0-4.0	+23	0 to +50	60	40	3.0	0.75	-10	-60	0 to -20	100	-81	-90	+15	350	"D"	
OVC0452	3.5-4.5	+23	0 to +50	75	44	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+15	350	"D"	
OVC0502	4.0-5.0	+23	0 to +50	85	50	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+15	350	"D"	
OVC0552	4.5-5.5	+23	0 to +50	85	54	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+15	350	"D"	
OVC0602	5.0-6.0	+23	0 to +50	85	60	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+15	350	"D"	
OVC0652	5.5-6.5	+23	0 to +50	85	64	3.0	1.00	-10	-60	0 to -20	100	-76	-85	+15	350	"D"	
WIDEBAND VCOs WITH VOLTAGE REGULATOR																	
OVC5201	1.0-2.0	+10	0 to +50	75	20	3.0	1.00	-10	-60	0 to -20	200	-81	-90	+12	65	"B"	
OVC5301	1.5-3.0	+10	0 to +50	100	30	3.0	1.00	-7	-60	0 to -20	200	-81	-90	+12	65	"B"	
OVC5401	2.0-4.0	+13	0 to +50	100	40	3.0	1.00	-10	-60	0 to -20	150	-81	-90	+12	65	"B"	
OVC5501	2.5-5.0	+13	0 to +50	150	50	3.0	1.00	-10	-60	0 to -20	150	-76	-85	+12	65	"B"	
OVC5601	3.0-6.0	+13	0 to +50	150	60	3.0	1.00	-12	-60	0 to -20	150	-76	-85	+12	65	"B"	
OVC5701	4.0-7.0	+10	0 to +50	150	60	3.0	1.00	-12	-60	0 to -20	200	-71	-80	+12	65	"D"	
OVC5801	5.0-8.0	+10	0 to +50	150	60	3.0	1.00	-12	-60	0 to -20	200	-71	-80	+12	65	"D"	
OVC5901	6.0-9.0	+10	0 to +50	150	60	3.0	1.00	-12	-60	0 to -20	200	-71	-80	+12	65	"D"	
WIDEBAND VCOs WITH VOLTAGE REGULATORS AND AMPLIFIERS																	
OVC3202	1.0-2.0	+18	0 to +50	75	3.0	3.0	1.00	-10	-60	0 to -20	200	-81	-90	+15	180	"D"	
OVC4202	2.0-4.0	+20	0 to +50	100	4.0	3.0	1.00	-7	-60	0 to -20	150	-81	-90	+15	250	"D"	
OVC5202	2.5-5.0	+20	0 to +50	150	5.0	3.0	1.00	-10	-60	0 to -20	150	-76	-85	+15	250	"D"	
OVC5602	3.0-6.0	+20	0 to +50	150	6.0	3.0	1.00	-12	-60	0 to -20	150	-76	-85	+15	250	"D"	
OVC5702	4.0-7.0	+20	0 to +50	150	6.0	3.0	1.00	-12	-60	0 to -20	200	-71	-80	+15	250	"D"	
OVC5802	5.0-8.0	+10	0 to +50	300	6.0	3.0	1.00	-15	-60	0 to -20	200	-61	-70	+15	140	mini PMpac	
OVC5702	12.0-18.0	+10	0 to +50	400	6.0	3.0	1.00	-15	-60	0 to -20	200	-61	-70	+15	140	mini PMpac	

(1) Full military temperature (-54 to +105°C) available
 (2) All units also available in connectorized package with removable SMA connectors (mini PMpac™)
 (3) "A" and "B" packaged units also available in SMA connectorized test fixtures upon request

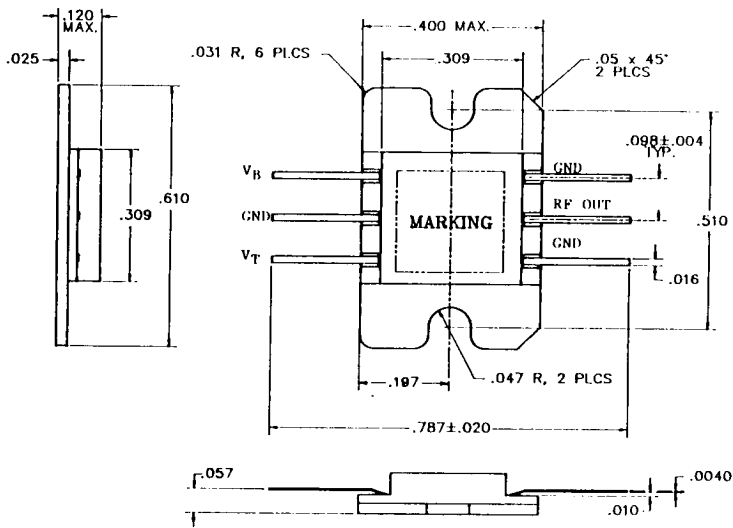
"A" PACKAGE



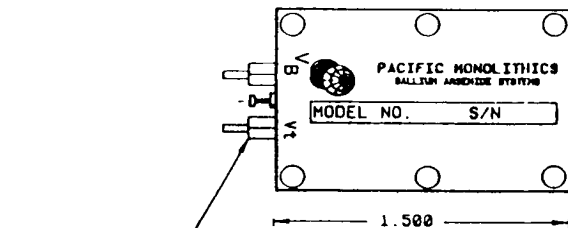
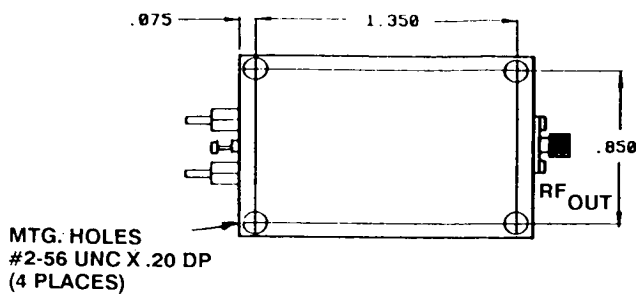
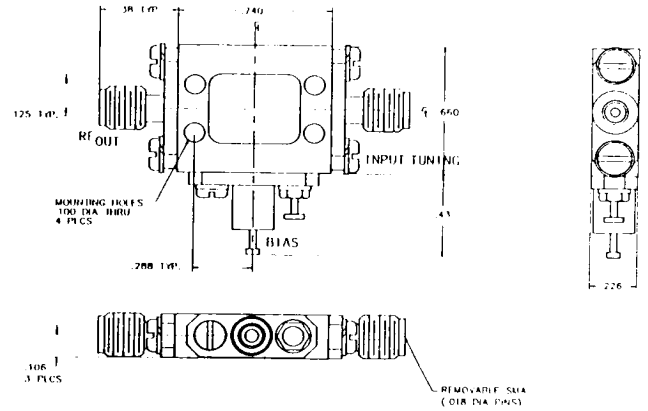
"B" PACKAGE



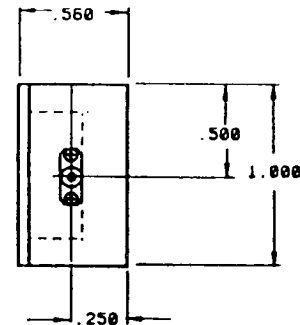
"D" PACKAGE



PM MINIPac™



TEST FIXTURE FOR "A" AND "B"



DC FEEDTHRU
(2 PLCS.)

REMOVABLE SMA CONNECTOR

035885 ✓ R

910510

PACIFIC MONOLITHICS, INC.

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