

"5954-2080"
"AN 918 Pulse and Waveform Generation with Step Recovery Diodes "
" Step Recovery Diode (SRD) characteristics are described for "
" use in high speed (pS) pulse and waveform generating "
" circuits. Design details and example circuits are presented."
"

"5954-2147"
"AN 922 Application of PIN Diodes "
" Discusses how the PIN diode can be applied to RF control "
" circuits. Applications such as attenuating, amplitude and "
" pulse modulation, switching, and phase shifting are discussed"
"

"5954-2079"
"AN 923 Schottky Barrier Diode Video Detectors "
" Describes the characteristics of H-P Schottky diodes for use "
" in video detector/receiver circuits. Schottky video detectors "
" are useful in ECM receivers, power-leveling, and fuses. "
"

"5954-2107"
"AN 928 Ku-Band Step Recovery Multipliers "
" Discusses the use of step recovery diodes (SRD) in a X8, "
" single stage frequency multiplier. Typical output power at "
" 16 GHz is 75 mW. "
"

"5954-2115"
"AN 929 Fast-Switching PIN Diodes "
" Discusses the switching speed of PIN diodes and the circuit "
" considerations which affect switching speed. Driver circuits "
" are presented for H-P 5082-304x PIN diodes. "
"

"5952-8376"
"AN 944-1 Microwave Transistor Bias Considerations "
" A practical discussion of the temperature dependent variables "
" in a microwave transistor that can cause RF performance "
" changes over temperature. Several bias circuits are analyzed"
"

"5952-0423"
"AN 956-1 The Criterion for the Tangential Sensitivity Measurement "
" Discusses the meaning of Tangential Signal sensitivity (TSS) "
" and a recommended measurement technique. "
"

"5952-0487"
"AN 956-3 Flicker Noise in Schottky Diodes "
" Treats the subject of flicker (1/f) noise in Schottky diodes "
" Four different types of diodes are compared. "
"

"5952-0495"
"AN 956-4 Schottky Diode Voltage Doubler "
" Explains how Schottky diode detectors can be combined to "
" achieve higher output voltages than would be produced by "
" a single diode. "
"

"5952-8335"
"AN 956-5 Dynamic Range Extension of Schottky Detectors "
" Discusses the operation of two types of detectors: the small "
" signal (square law) and the large signal (linear) type. "
" Compression point and effects of bias current are presented. "
"

"5952-8341"
"AN 956-6 Temperature Dependence of Schottky Detector Voltage Sensitivity"
" A discussion of the effects that temperature changes have "
" on Schottky barrier diodes. Data is presented for the HP "
" 5082-2750 detector diode. "
"

"5952-0710"
"AN 957-1 Broadbanding the Shunt PIN Diode SPDT Switch "
" Covers an impedance matching technique which improves the "
" bandwidth of shunt PIN diode switches. "
"

"5952-0491"
"AN 957-2 Reducing the Insertion Loss of a Shunt PIN Diode "
" Examines a simple filter design which includes the shunt PIN "
" diode capacitance effect in a low\pass filter, thereby "
" extending the upper frequency limit. "
"

"5952-8429"
"AN 957-3 Rectification Effects in PIN Attenuators "
" Covers an impedance matching technique which improves the "
" bandwidth of shunt PIN diode switches. "
"

"5952-0496"
"AN 963 Impedance Matching Techniques for Mixers and Detectors "
" Presents a methodical method for matching complex loads such "
" as Schottky diodes to transmission lines. Application to "
" broadband mixers and detectors is illustrated. "
"

"5952-9800"
"AN 967 A Low Noise 4 GHz Amplifier Using the HXTR-6101 Silicon "
" Bipolar Transistor' "
" Detailed design of a low noise amplifier stage. Describes "
" both the input and output matching networks "
"

"5952-9885"
"AN 971 The Beam Lead Mesa PIN in Shunt Applications "
" The low R-C product & fast switching time of the HPND-4050 "
" beam lead PIN diode are featured in a shunt switch. Circuits "
" switching performance, and handling are included. "
"

"5954-2125"
"AN 972 Two Telecommunications Power Amplifiers for 2 and 4 GHz Using "
" the HXTR-5102 Silicon Bipolar Power Transistor' "
" Detailed design of two linear power amplifier stages using "
" small signal S-parameters and power contours. "
"

"5953-4406"
"AN 974 Die Attach and Bonding techniques for Diodes & Transistors "
" Detailed instructions are given for die attaching and bonding "
" devices for use in hybrid circuits. Also includes a brief "
" description of a mixer impedance matching technique. "
"

"5953-4411"
"AN 975 A 4.3 GHz Oscillator Using the HXTR-4101 Bipolar Transistor "
" A design technique for transistor oscillators, beginning "
" with small signal S-parameters, is presented and illustrated "
" with a 4.3 GHz bipolar oscillator circuit. "
"

"5954-2126"
"AN 976 Broadband Microstrip Mixer Design - The Butterfly Mixer " "
" One solution to the problem of realizing low impedance shunt " "
" lines for impedance matching is presented and illustrated " "
" with a 8 to 12 GHz mixer design. " "
"

"5953-4435"
"AN 979 The Handling and Bonding of Beam Lead Devices Made Easy " "
" This note describes some of the equipment and techniques used " "
" for the proper handling and bonding of beam lead devices. " "
"

"5953-4436"
"AN 980 A Cost-Effective Amplifier Design Approach at 425 MHz Using " "
" the HXTR-3101 Silicon Bipolar Transistor' " "
" Simplified matching networks are used to achieve 13.5 dB gain " "
" at 425 MHz. Includes construction details and board layout. " "
"

"5953-4439"
"AN 981 The Design of a 900 MHz Oscillator with the HXTR-3102 " "
" Design techniques and performance details are described for a " "
" 900 MHz, microstrip oscillator using the HXTR-3102 silicon " "
" bipolar transistor. " "
"

"5953-4440"
"AN 982 A 900 MHz Driver Amplifier Stage Using the HXTR-3102 " "
" A modified version of the load-pull technique is used in the " "
" design of a 21.5 dBm power driver amplifier stage for 900 MHz " "
" The design method and details of construction are provided. " "
"

"5953-4441"
"AN 983 Comb Generator Simplifies Multiplier Design " "
" A filter, added to a comb generator, produces higher output " "
" power over a narrow band of frequencies. Results of a 1 GHz " "
" input comb generator with output at X-Band are presented. " "
"

"5953-4442"
"AN 984 How to Get More Output Power from a Comb Generator Module " "
" with the Right Bias Resistance' " "
" The output power of a comb generator is doubled by optimizing " "
" the external bias resistance. " "
"

"5953-4443"
"AN 985 Achieve High Isolation in Series Applications with the Low " "
" Capacitance HPND-4005 Beam Lead PIN' " "
" The performance of a SPST and a SPDT switch are described. " "
" Includes the derivation of circuit models for the diode. " "
"

"5953-4444"
"AN 986 Square Law and Linear Detection " "
" Frequency, diode capacitance, breakdown voltage, and load " "
" resistance all effect the slope of a microwave detector. " "
" The linearity may be controlled at high Pin levels with tuning. " "
"

"5953-4446"
"AN 987 Is Bias Current Necessary? " "
" Rectified current may be used with high input signal levels " "
" to reduce the impedance of detector diodes without requiring " "
" external bias. A 5082-2755 diode is used for illustration. " "
"

"5953-4449"
"AN 988 All Schottky Diodes are Zero Bias Detectors " "
" With loads comparable to the impedance of a detector diode, " "
" the diode bias may be eliminated with excellent results. " "
" " "
" " "

"5953-4454"
"AN 989 Step Recovery Diode Doubler " "
" A straightforward multiplier design technique is illustrated " "
" by a 2 to 4 GHz doubler. The resulting multiplier is capable " "
" of delivering 4 watts of output power over a 10% bandwidth. " "
" " "

"5953-4462"
"AN 990 A 500 MHz Oscillator with the HXTR-3102 Bipolar Transistor " "
" The design and performance of a 500 MHz oscillator using the " "
" HXTR-3102 silicon bipolar transistor is described. " "
" " "

"5953-4492"
"AN 991 Harmonic Mixing with the HSCH-5530 Series Dual Diode " "
" The dual diode on coplanar waveguide forms an anti-parallel " "
" pair. This arrangement is excellent for mixers with sub- " "
" harmonic L.O.'s. A 34 GHz mixer design is presented. " "
" " "

"5953-4496"
"AN 992 Beam Lead Attachment Methods " "
" This note gives a general description of the various methods " "
" of attaching beam lead components to both hard and soft " "
" substrates. " "
" " "

"5954-2227"
"AN 993 Beam Lead Diode Bonding to Soft Substrates " "
" Described in this note is a method of using resistance " "
" welding or modified parallel gap welding to bond beam lead " "
" diodes to soft substrate materials. " "
" " "

"5952-0709"
"AN 993-1 Thermal Stress Relief in Beam Lead Diode Assembly " "
" Discusses various assembly techniques to provide thermal " "
" stress relief when mounting beam lead diodes on soft " "
" substrate materials that have high coefficients of expansion. " "
" " "

"5953-4495"
"AN 994 A 2 GHz Power Oscillator Using the HXTR-4103 Bipolar Transistor" "
" Describes the design of a 1 watt, 2 GHz microstrip oscillator" "
" using the common collector HXTR-4103 transistor. Board layout" "
" and construction details are included. " "
" " "

"5954-2073"
"AN 995 The Schottky Diode Mixer " "
" This application note studies the effect on mixing efficiency" "
" of diode parasitics, local oscillator power, DC bias, barrier" "
" voltage, and diode resistance. Distortion is also discussed." "
" " "

"5954-2068"
"AN 996 Designing with HAMP-1001, 1002, 1003, and 1004 TO-8 Amplifiers" "
" Performance data for various single and multi-stage TO-8 " "
" amplifiers are presented. PC board artwork for 1- to 4-stage" "
" amplifiers is included. " "
" " "

"5954-2090"

"AN 997 A 2 GHz Balanced Mixer Using SOT-23 Surface Mount Schottky Diodes"
" The HSMS-2822 diode pair in the SOT-23 package is used for "
" a balanced mixer. A unique microstrip matching method "
" is used. "
"

"5954-2088"

"AN 998 A 75 Ohm 470-800 MHz Low Noise Amplifier Using The HXTR-3121 "
" Bipolar Transistor "
" A CAD program is used to synthesize the input, interstage and "
" output networks for a two stage LNA covering 470-806 MHz. "
"

"5954-2141"

"AN 999 GaAs MMIC Assembly and Handling Guidelines "
" Guidelines for the mechanical handling, die attach, and "
" bonding of GaAs microwave monolithic integrated circuits. "
" "
"

"5954-2211"

"AN 1037 Surface Mount Flatpac (HBIC-xxxx) Mounting "
" This application note describes appropriate techniques for "
" RF grounding, PWB pad layout, and solder attachment of the "
" HBIC-xxxx series of surface mount flatpacks used for RF "
" and High Speed Digital hybrid and MMIC circuits. "
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