

Blocking And Desensitization In Bipolar And MOSFET Differential Amplifiers

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Summary

Blocking and desensitization are among the nonlinear effects that result when bipolar and MOSFET differential amplifiers are operating in a multisignal electromagnetic interference (EMI) environment. When a weak desired signal is processed along with a strong undesired interferer signal, the weak signal may experience a reduced gain; that is, desensitization. If the amplitude of the undesired signal is sufficiently large, the gain of the desired signal may drop to zero; that is, blocking. Using a Fourier-series model for the differential input-voltage/output-current characteristics, closed-form expressions for predicting the desensitization in bipolar and MOSFET differential amplifiers are presented. These expressions are valid over a wide range of desired and blocking interfering signals amplitudes

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