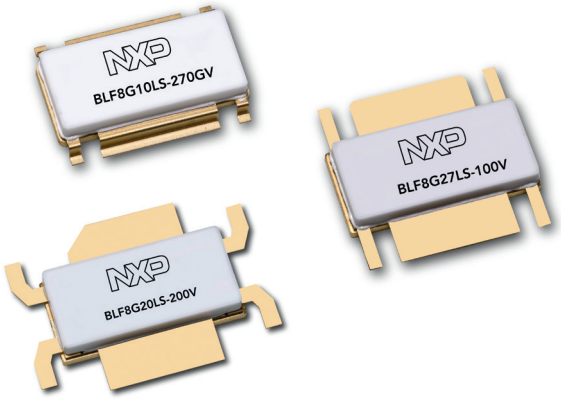

NXP Gen8 ceramic LDMOS power transistors with video bandwidth

Extended video bandwidth with Doherty efficiency

Perfect for today's multi-mode, multi-carrier base stations, within NXP's range of Gen8 final-stage broadband amplifiers there is a dedicated family that delivers extended video bandwidth in Doherty architectures. This enables broadband operation that meets the growing data demands of users and applications without sacrificing efficiency.

Key benefits

- Improved video bandwidth without sacrificing efficiency
- Easy to use
- Lower system costs
- Expert application support

Key features

- Designed for broadband operation
- Improved video bandwidth enabled by decoupling leads
- High efficiency in broadband range
- Excellent ruggedness
- Excellent thermal stability through low Rth
- Improved performance in Doherty applications thanks to lower output capacitance

Traditional Doherty solutions work best in narrow band applications, with amplifiers performing well over a few MHz, each side of the optimum frequency. Now, NXP's dedicated video bandwidth family of Gen8 ceramic LDMOS power transistors answers the market's demand for solutions that cover an extended video bandwidth (VBW) to accommodate multi-mode, multi-carrier applications.

The improved VBW performance is achieved through a combination of NXP's 8th generation LDMOS technology and better output matching, both inside and outside the LDMOS transistor. External matching is through additional leads that allow connection of a decoupling capacitor to the transistor's drain.

Designed for broadband operation these Gen8 LDMOS enhanced devices offer high efficiency performance over a broad 55-110 MHz range each side of the target frequency. As an example, the BLF8G27LS-100V achieves industry leading efficiency (43.8%) over the full 2500 MHz to 2700 MHz band in a symmetrical 2-way Doherty system. This performance comes with a peak power of 54 dBm (250 W) and average power of 46.5 dBm (45 W). Similar performance benchmark levels can be reached in alternative Doherty configurations.

Our Gen8 LDMOS video bandwidth family allows base station power amplifier (PA) design engineers to increase video bandwidth without losing efficiency, while also improving system ruggedness. You also benefit from rapid time-to-market and flexibility, with NXP's expert application support that leads to a quick turnaround for a working Doherty solution.

A family approach for greater flexibility

Type number	Package version	f_{min} (MHz)	f_{max} (MHz)	P_{1dB} (W)	V_{DS} (V)	P_L (W)	η (%)	GP	Test signal
BLF8G10LS-160V	SOT1244	925	960	160	30	35	30	19.9	2-c WCDMA
BLF8G10LS-270(G)V	SOT1244	790	960	270	28	67	31	19.5	2-c WCDMA
BLF8G19LS-170BV	SOT1120	1800	1990	170	32	60	32	18	2-c WCDMA
BLF8G20LS-200V	SOT1120	1800	2000	200	28	55	33	17.5	2-c WCDMA
BLF8G22LS-160BV	SOT1120	2000	2200	160	32	55	32	18	2-c WCDMA
BLF8G22LS-200(G)V	SOT1244	2110	2170	200	28	55	29	19	2-c WCDMA
BLF8G22LS-270(G)V	SOT1244	2110	2170	270	28	80	29	17.3	2-c WCDMA
BLF8G27LS-100V	SOT1244	2500	2700	100	28	25	28	17	2-c WCDMA
BLF8G27LS-140V	SOT1120	2600	2700	140	32	45	30	17.4	2-c WCDMA
BLF8G27LS-150(G)V	SOT1244	2500	2700	150	28	45	28	18	2-c WCDMA

www.nxp.com

Date of release: March 2013
Document order number: 9397 750 17398
Printed in the Netherlands