



NXP 50 V LDMOS RF power transistors BLF881x and BLF888A

Digital broadcasting at its best

Operating between 470 and 860 MHz, the BLF881 (driver) and BLF888A (final) LDMOS transistor line-ups deliver one-octave wideband operation, excellent ruggedness, very high output power and efficiency, high gain, and outstanding linearity.

Key features

- ▶ Broadband operation (470 to 860 MHz)
- ▶ Highest power levels available for DVB-T broadcasting
- ▶ Integrated ESD protection
- ▶ Best-in-class ruggedness
- ▶ Best broadband performance
- ▶ Excellent manufacturing consistency
- ▶ Best-in-class design support
- ▶ Advanced flange material for very low thermal resistance (BLF888A)
- ▶ RoHS compliant

Key applications

- ▶ Digital (DVB-T) broadcast transmitters in the UHF band
- ▶ Industrial applications in the UHF band

NXP's BLF88x family comprises the BLF881 and BLF888A, 50 V LDMOS transistors for the HF, VHF and UHF bands and supports digital broadcast transmitters with one-octave wideband operation, excellent ruggedness, very high output powers and efficiency, high gain, and outstanding linearity.

The BLF881 features 140 W output power with 21 dB gain and 49% efficiency. As an unmatched device, it is recommended for use in broadcast transmitters and industrial applications in the HF to 1 GHz range. It is also ideally suited as a driver in high-power digital broadcast applications. In these configurations, the BLF888A would be typically used as the final device.

Being the 2nd member of the family, the BLF888A is a matched, 600 W high-power device. The transistor is optimized for digital signal broadcasting and can deliver 125 W average DVB-T output power over the full UHF band with 21 dB gain and 32.5% efficiency. The device is extremely rugged, withstanding a VSWR or more than 40:1, and has proven itself to be virtually indestructible in the field. Given the high output power, the low thermal resistance of the BLF888A (0.15 K/W) is of critical importance to the reliable operation of the device.



The BLF888A and the BLF881 are also available as earless devices, denoted BLF888AS and BLF881S, respectively. The earless devices enable surface-mount assembly processes and take optimum advantage of the very low thermal resistance package.

Design support and tooling

To help RF system engineers complete design-in and integration in the shortest time possible, we offer various design and data documents such as layout files, best-in-class large signal models, and loadpull data.

Selection guide

	Pavg (W) for DVB-T signal	gain (dB)	R _{th} (K/W)	Package
BLF881(S)	33	21	0.95	SOT467
BLF888A(S)	125	21	0.15	SOT539

Typical DVB-T power amplifier diagram

