

RF Power Factsheet

Gen8 LDMOS RF power transistor with Video Bandwidth

Factsheet 001 — July 2012

Factsheet

1. Gen8 LDMOS RF power transistor with Video Bandwidth (VBW)

The proliferation of standards in the cellular base-station market has triggered power amplifier (PA) designs to cover wider frequency ranges. To serve this trend NXP are bringing to market a family of transistors that can cover video bandwidths (VBW). The transistors achieve VBW performance through a combination of NXP's Gen8 LDMOS technology and the provision of decoupling leads, enabling the connection of decoupling capacitors close to the transistor drain connection.

1.1 Naming convention

Devices with enhanced VBW performance will have the letter "V" at the end of the name, for example BLF8G10LS-160V. In some cases there will be "V" and non-"V" versions available. For the example quoted there is also a standard BLF8G10LS-160, non-VBW version available.



Fig 1. Package SOT1244B



Fig 2. Package SOT1244C

1.2 Packages

Transistors will be released in the two industry standard ceramic footprints used for LDMOS RF power transistors, for single-ended and push-pull variants.

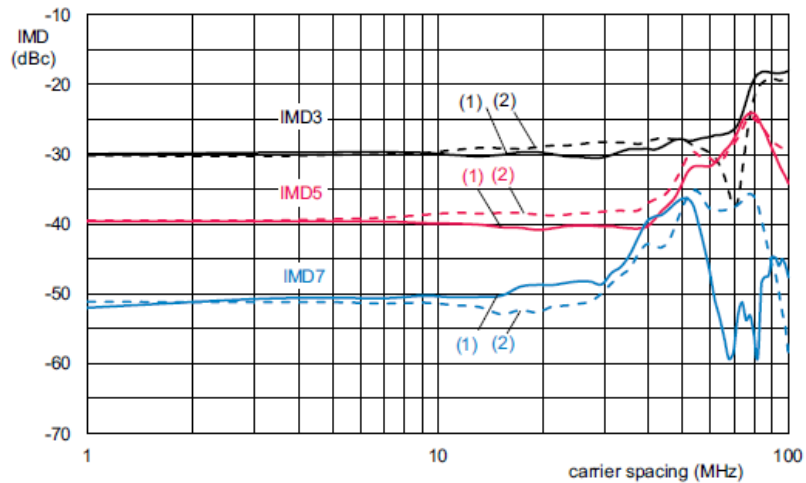
Table 1. Packages

	Standard, single-ended	VBW, single-ended	Standard, push-pull	VBW, push-pull
Eared	SOT502A	SOT1244A	SOT539A	SOT1242A
Earless	SOT502B	SOT1244B	SOT539B	SOT1244B



1.3 VBW specification

NXP uses IMD3 flatness as a measure of the VBW determination. A 2-tone CW signal at a nominal in-band frequency is plotted for varying carrier spacing. In the example below it can be seen how the IMD3 drops as the carrier spacing exceeds 70MHz. For this device the VBW performance is stated as 60MHz typical.



$V_{DS} = 30\text{ V}$; $I_{DQ} = 1100\text{ mA}$; $f = 942\text{ MHz}$.

(1) low

(2) high

Fig 1. VBW capability in class-AB test circuit

Contact information

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For sales office addresses, please send an email to salesaddresses@nxp.com.