

BLC8G27LS-160AV

Power LDMOS transistor

Rev. 1 — 23 May 2013

Objective data sheet

1. Product profile

1.1 General description

160 W LDMOS packaged asymmetrical Doherty power transistor for base station applications at frequencies from 2496 MHz to 2690 MHz.

Table 1. Typical performance

Typical RF performance at $T_{case} = 25\text{ °C}$ in a Doherty production test circuit.

Test signal	f (MHz)	V _{DS} (V)	P _{L(AV)} (W)	G _p (dB)	η _D (%)	ACPR (dBc)
1-carrier W-CDMA	2496 to 2690	28	32	14.5	43	30 [1]

[1] Test signal: 3GPP test model 1; 1 to 64 DPCH; PAR = 7.2 dB at 0.01 % probability on CCDF.

1.2 Features and benefits

- Excellent ruggedness
- High efficiency
- Low R_{th} providing excellent thermal stability
- Decoupling leads to enable improved video bandwidth
- Lower output capacitance for improved performance in Doherty applications
- Designed for low memory effects providing excellent pre-distortability
- Internally matched for ease of use
- Integrated ESD protection
- Compliant to Restriction of Hazardous Substances (RoHS) Directive 2002/95/EC

1.3 Applications

- RF power amplifier for W-CDMA base stations and multi carrier applications in the 2496 MHz to 2690 MHz frequency range



2. Pinning information

Table 2. Pinning

Pin	Description	Simplified outline	Graphic symbol
1	drain1 (main)		
2	drain2 (peak)		
3	gate1 (main)		
4	gate2 (peak)		
5	video decoupling (main)		
6	video decoupling (peak)		
7	source		

[1] Connected to flange.

3. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
BLC8G27LS-160AV	-	plastic earless flanged cavity package; 6 leads	SOT1275

4. Limiting values

Table 4. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	drain-source voltage		-	65	V
V_{GS}	gate-source voltage		-0.5	+13	V
T_{stg}	storage temperature		-65	+150	°C
T_j	junction temperature		[1]	225	°C

[1] Continuous use at maximum temperature will affect the reliability.

5. Thermal characteristics

Table 5. Thermal characteristics

Symbol	Parameter	Conditions	Typ	Unit
$R_{th(j-case)}$	thermal resistance from junction to case	$T_{case} = 80\text{ °C};$ $P_L = <tbid> W$	<tbid>	K/W

6. Characteristics

<tbid>

7. Test information

7.1 Ruggedness in Doherty operation

<td>

8. Package outline

Plastic earless flanged cavity package; 6 leads

SOT1275

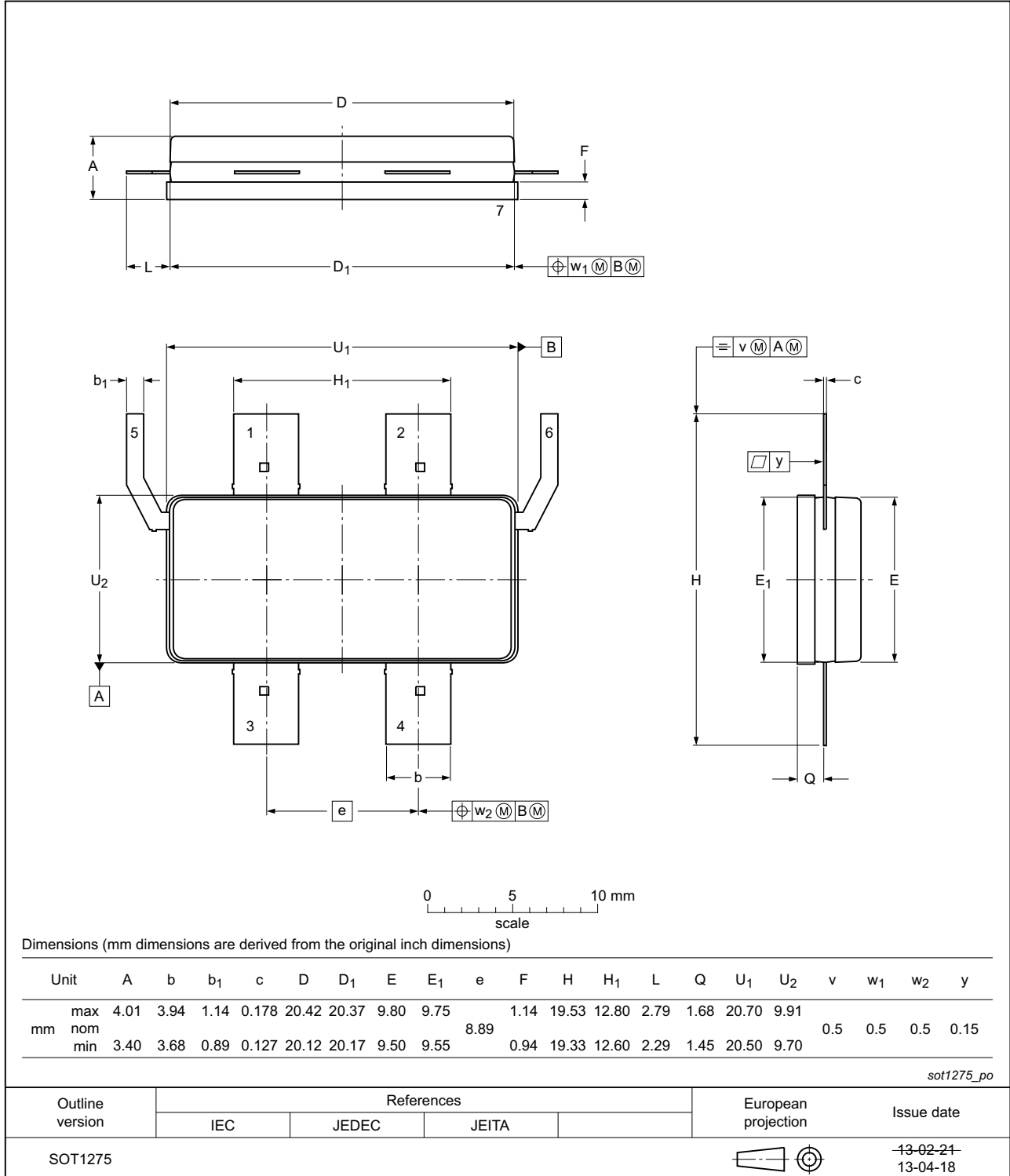


Fig 1. Package outline SOT1275

9. Handling information

CAUTION



This device is sensitive to ElectroStatic Discharge (ESD). Observe precautions for handling electrostatic sensitive devices.

Such precautions are described in the *ANSI/ESD S20.20*, *IEC/ST 61340-5*, *JESD625-A* or equivalent standards.

10. Abbreviations

Table 6. Abbreviations

Acronym	Description
3GPP	3rd Generation Partnership Project
CCDF	Complementary Cumulative Distribution Function
DPCH	Dedicated Physical CHannel
LDMOS	Laterally Diffused Metal-Oxide Semiconductor
PAR	Peak-to-Average Ratio
W-CDMA	Wideband Code Division Multiple Access

11. Revision history

Table 7. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BLC8G27LS-160AV	20130523	Objective data sheet	-	-

12. Legal information

12.1 Data sheet status

Document status ^{[1][2]}	Product status ^[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

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Date of release: 23 May 2013
 Document identifier: BLC8G27LS-160AV