BLP9G0722-20; BLP9G0722-20G

Power LDMOS transistor

AMPLEON

Rev. 3 — 26 February 2018

Product data sheet

1. Product profile

1.1 General description

20 W plastic LDMOS power transistor for base station applications at frequencies from 100 MHz to 2700 MHz.

Table 1. Application performance (multiple frequencies)

Typical RF performance at T_{case} = 25 °C; I_{Dq} = 180 mA; in a class-AB demo board, tested on gull wing lead device.

Test signal	f	I_{Dq}	V_{DS}	$P_{L(AV)}$	G_p	η_D	$ACPR_{5M}$
	(MHz)	(mA)	(V)	(dBm)	(dB)	(%)	(dBc)
1-carrier W-CDMA	400 to 430	180	28	35	25.5	24	–45 [1]
	728 to 768	180	28	35	23	22	–45 [1]
	1805 to 1880	180	28	35	19	21	–45 [1]
	2110 to 2170	180	28	35	18	21	–45 [1]
	2300 to 2400	180	28	35	17.3	21	–45 [1]
	2570 to 2620	180	28	35	16	20	–45 [1]

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

1.2 Features and benefits

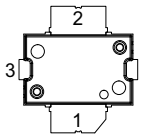
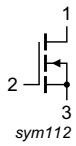
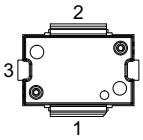
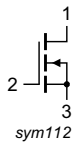
- High efficiency
- Excellent ruggedness
- Designed for broadband operation
- Excellent thermal stability
- High power gain
- Integrated ESD protection
- Compliant to Directive 2002/95/EC, regarding Restriction of Hazardous Substances (RoHS)

1.3 Applications

- FDD/TDD LTE
- GSM EDGE
- CDMA
- W-CDMA
- MC-GSM
- WiMAX

2. Pinning information

Table 2. Pinning

Pin	Description	Simplified outline	Graphic symbol
BLP9G0722-20 (SOT1482-1)			
1	drain		
2	gate		
3	source [1]		
BLP9G0722-20G (SOT1483-1)			
1	drain		
2	gate		
3	source [1]		

[1] Connected to flange.

3. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
BLP9G0722-20	-	plastic; heatsink small outline package; 2 leads (flat)	SOT1482-1
BLP9G0722-20G	-	plastic; heatsink small outline package; 2 leads	SOT1483-1

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		–5	+13	V
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		-	225	°C

5. Thermal characteristics

Table 5. Thermal characteristics

Symbol	Parameter	Conditions	Typ	Unit
$R_{th(j-c)}$	thermal resistance from junction to case	T_{case} = 80 °C; P_L = 3 W	1.1	K/W

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

6. Characteristics

Table 6. DC characteristics

T_j = 25 °C; unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_{(BR)DSS}$	drain-source breakdown voltage	V_{GS} = 0 V; I_D = 0.3 mA	65	-	-	V
$V_{GS(th)}$	gate-source threshold voltage	V_{DS} = 10 V; I_D = 30 mA	1.5	2.0	-	V
V_{GSq}	gate-source quiescent voltage	V_{DS} = 28 V; I_D = 180 mA	1.6	2.1	2.6	V
I_{DSS}	drain leakage current	V_{GS} = 0 V; V_{DS} = 28 V	-	-	1.4	μA
I_{DSX}	drain cut-off current	V_{GS} = $V_{GS(th)}$ + 3.75 V	-	6	-	A
I_{GSS}	gate leakage current	V_{GS} = 11 V; V_{DS} = 0 V	-	-	140	nA
g_{fs}	forward transconductance	V_{DS} = 10 V; I_D = 30 mA	-	300	-	mS
$R_{DS(on)}$	drain-source on-state resistance	V_{GS} = $V_{GS(th)}$ + 3.75 V; I_D = 1.05 A	-	500	-	mΩ

Table 7. RF characteristics

A derivative functional RF test is performed in production. The performance as mentioned below is verified by design and characterization in a class AB production board.
Test signal: pulsed CW; δ = 10%; t_p = 100 μs; V_{DS} = 28 V; I_{Dq} = 180 mA; T_{case} = 25 °C; f = 1842.5 MHz.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
G_p	power gain	$P_{L(AV)}$ = 35 dBm	17	19	-	dB
η_D	drain efficiency	$P_{L(AV)}$ = 35 dBm	18	22	-	%
RL_{in}	input return loss	$P_{L(AV)}$ = 35 dBm	-	−10	−6	dB
$P_{L(1dB)}$	output power at 1 dB gain compression		42.5	43.9	-	dBm
$P_{L(3dB)}$	output power at 3 dB gain compression		43	44.3	-	dBm

7. Test information

7.1 Ruggedness in Doherty operation

The BLP9G0722-20 and BLP9G0722-20G are capable of withstanding a load mismatch corresponding to a VSWR = 10 : 1 through all phases under the following conditions: V_{DS} = 28 V; P_L = 20 W (CW); f = 728 MHz and 1805 MHz on development board.

7.2 Impedance information

Table 8. Typical impedance of BLP9G0722-20G

Measured load-pull data; I_{Dq} = 180 mA; V_{DS} = 28 V.

f	Z_S [1]	Z_L [1]	P_L [2]	η_D [2]	G_p [2]
(MHz)	(Ω)	(Ω)	(W)	(%)	(dB)
Maximum power load					
740	0.5 + j0.1	10.6 – j1.0	37	55.1	22.8
880	0.6 – j1.4	3.8 + j2.0	49	70.9	22.8
1810	1.6 – j5.5	3.4 – j1.0	43	62.2	19.0

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

Table 8. Typical impedance of BLP9G0722-20G *...continued*
Measured load-pull data; I_{Dq} = 180 mA; V_{DS} = 28 V.

f	Z_S [1]	Z_L [1]	P_L [2]	η_D [2]	G_p [2]
(MHz)	(Ω)	(Ω)	(W)	(%)	(dB)
1840	1.3 – j5.8	3.0 – j1.2	43	62.7	19.1
1880	1.3 – j6.2	2.6 – j1.5	42	61.2	18.7
2110	5.3 – j9.6	2.6 – j2.5	41	58.2	17.7
2170	6.2 – j8.1	2.6 – j2.5	41	60.4	18.2
Maximum drain efficiency load					
740	0.5 + j0.1	6.0 + j10.0	20	74.1	24.8
880	0.6 – j1.4	3.7 + j5.9	26	82.7	24.7
1810	1.6 – j5.5	1.9 + j0.2	31	70.9	20.9
1840	1.3 – j5.8	1.7 + j0.0	29	69.8	21.3
1880	1.3 – j6.2	1.6 – j0.2	28	69.8	21.3
2110	5.3 – j9.6	1.7 – j1.5	32	65.6	19.5
2170	6.2 – j8.1	1.6 – j1.7	30	65.9	20.2

[1] Z_S and Z_L defined in Figure 1.

[2] at 3 dB gain compression.

Table 9. Typical impedance of BLP9G0722-20
Measured load-pull data; I_{Dq} = 180 mA; V_{DS} = 28 V.

f	Z_S [1]	Z_L [1]	P_L [2]	η_D [2]	G_p [2]
(MHz)	(Ω)	(Ω)	(W)	(%)	(dB)
Maximum power load					
740	0.6 + j0.6	10.6 – j1.0	39	56.8	22.7
880	0.6 – j0.7	4.0 + j1.6	51	70.9	22.1
1810	1.8 – j5.4	3.0 – j1.2	44	60.9	19.1
1840	1.6 – j5.8	3.0 – j1.2	44	62.6	19.6
1880	1.8 – j6.1	2.9 – j1.6	44	60.9	19.1
2110	7.3 – j8.2	2.6 – j2.5	41	57.7	17.8
2170	8.7 – j6.8	2.6 – j2.5	43	62.1	18.7
Maximum drain efficiency load					
740	0.6 + j0.6	6.0 + j10.0	22	77.0	24.6
880	0.6 – j0.7	3.7 + j5.9	26	85.3	24.4
1810	1.8 – j5.4	1.9 + j0.0	33	69.4	20.9
1840	1.6 – j5.8	1.9 + j0.0	31	69.4	21.7
1880	1.8 – j6.1	1.8 – j0.2	32	70.7	21.6
2110	7.3 – j8.2	1.5 – j1.4	30	65.3	19.9
2170	8.7 – j6.8	1.4 – j1.6	29	69.3	21.3

[1] Z_S and Z_L defined in Figure 1.

[2] at 3 dB gain compression.

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

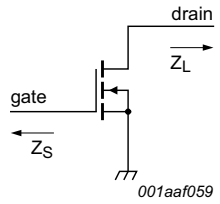
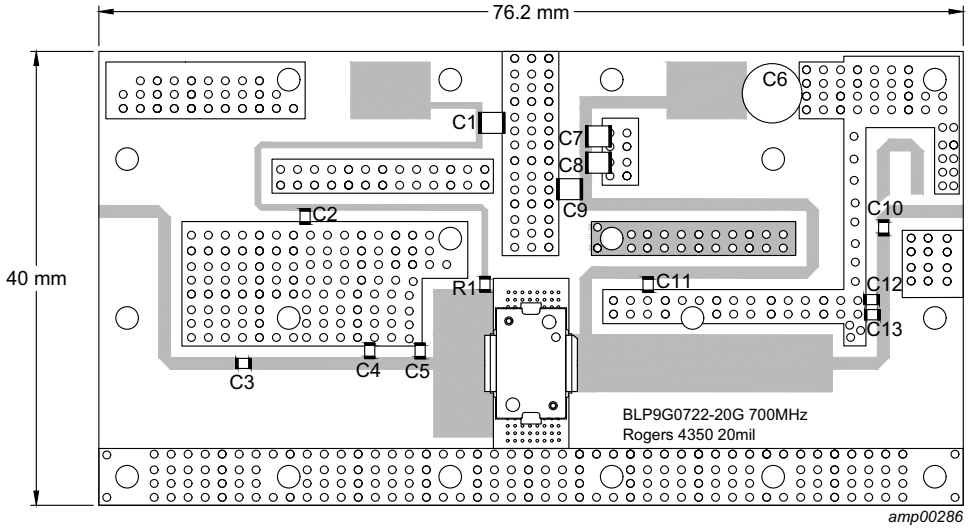


Fig 1. Definition of transistor impedance

7.3 Test circuit



Printed-Circuit Board (PCB): Rogers RO4350B; thickness = 0.508 mm.

See Table 10 for a list of components.

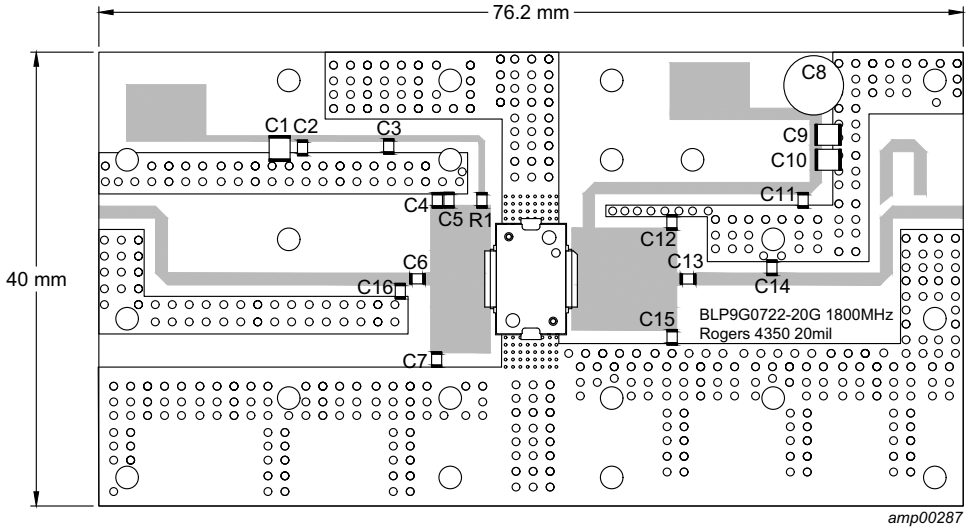
Fig 2. Component layout for test circuit at 740 MHz

Table 10. List of components

See Figure 2 for component layout.

Component	Description	Value	Remarks
C1, C7, C8, C9	multilayer ceramic chip capacitor	10 μF, 50 V	Murata
C2, C3, C10, C11	multilayer ceramic chip capacitor	36 pF	ATC 600F
C4, C5	multilayer ceramic chip capacitor	15 pF	ATC 600F
C6	electrolytic capacitor	2200 μF, 50 V	
C12	multilayer ceramic chip capacitor	5.6 pF	ATC 600F
C13	multilayer ceramic chip capacitor	0.2 pF	ATC 600F
R1	resistor	5.1 Ω	SMD 0805

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.



Printed-Circuit Board (PCB): Rogers RO4350B; thickness = 0.508 mm.

See Table 11 for a list of components.

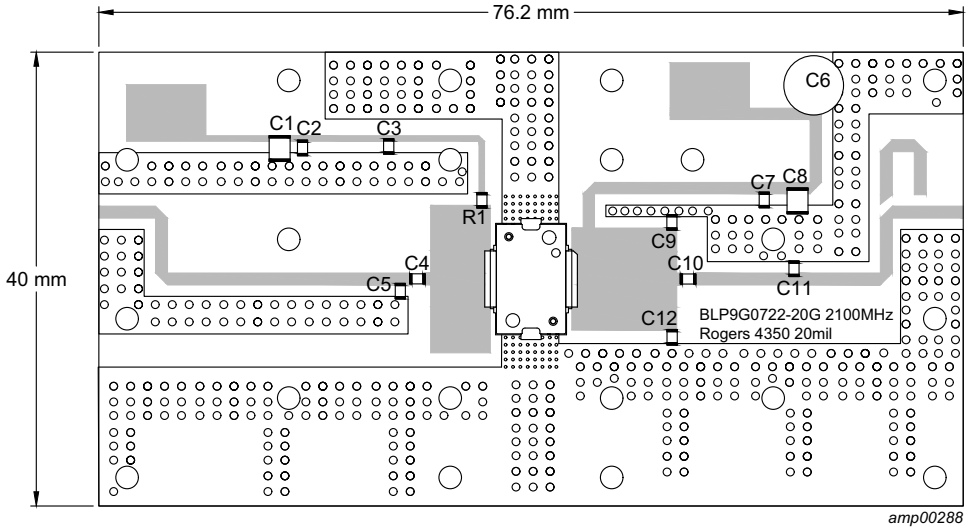
Fig 3. Component layout for test circuit at 1800 MHz

Table 11. List of components

See Figure 3 for component layout.

Component	Description	Value	Remarks
C1, C9, C10	multilayer ceramic chip capacitor	10 μF, 50 V	Murata
C2, C3, C11, C13	multilayer ceramic chip capacitor	12 pF	ATC 600F
C4, C5	multilayer ceramic chip capacitor	0.8 pF	ATC 600F
C6	multilayer ceramic chip capacitor	6.2 pF	ATC 600F
C7	multilayer ceramic chip capacitor	2 pF	ATC 600F
C8	electrolytic capacitor	2200 μF, 50 V	
C12, C15	multilayer ceramic chip capacitor	0.3 pF	ATC 600F
C14	multilayer ceramic chip capacitor	2.2 pF	ATC 600F
C16	multilayer ceramic chip capacitor	0.3 pF	ATC 600F
R1	resistor	5.1 Ω	SMD 0805

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.



Printed-Circuit Board (PCB): Rogers RO4350B; thickness = 0.508 mm.

See Table 12 for a list of components.

Fig 4. Component layout for test circuit at 2100 MHz

Table 12. List of components

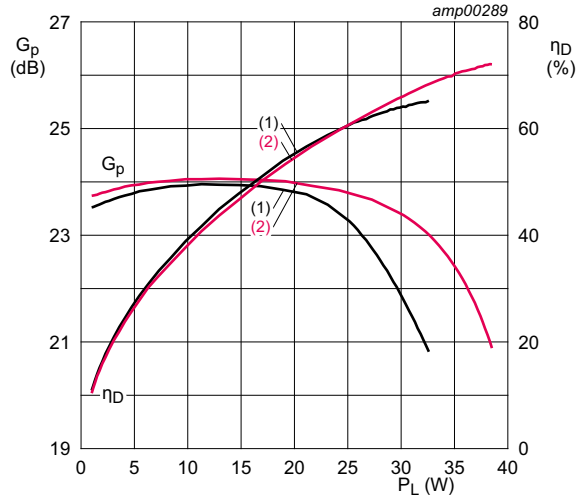
See Figure 4 for component layout.

Component	Description	Value	Remarks
C1, C8	multilayer ceramic chip capacitor	10 μF, 50 V	Murata
C2, C7, C10	multilayer ceramic chip capacitor	12 pF	ATC 600F
C3	multilayer ceramic chip capacitor	62 pF	ATC 600F
C4	multilayer ceramic chip capacitor	5.6 pF	ATC 600F
C5	multilayer ceramic chip capacitor	0.5 pF	ATC 600F
C6	electrolytic capacitor	2200 μF, 50 V	
C9	multilayer ceramic chip capacitor	2.2 pF	ATC 600F
C11	multilayer ceramic chip capacitor	1.2 pF	ATC 600F
C12	multilayer ceramic chip capacitor	1.8 pF	ATC 600F
R1	resistor	5.1 Ω	SMD 0805

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

7.4 Graphical data

7.4.1 CW

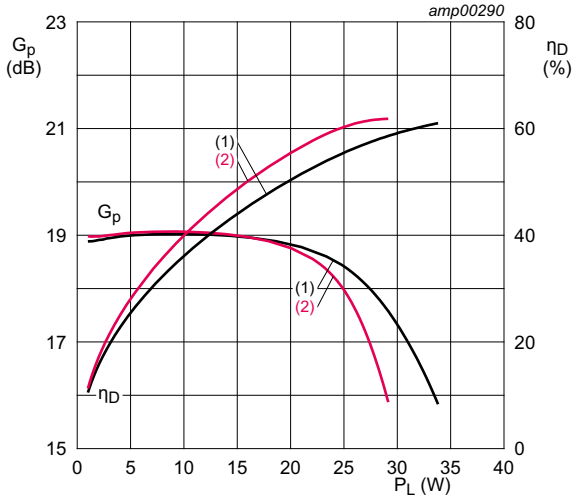


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 728 MHz

(2) f = 768 MHz

Fig 5. Power gain and drain efficiency as function of output power; typical values

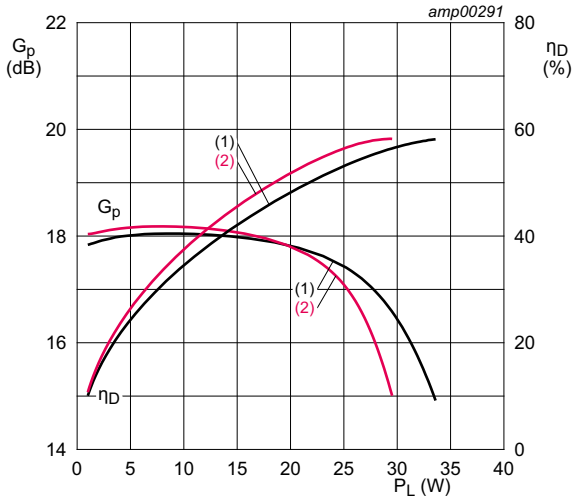


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 1805 MHz

(2) f = 1880 MHz

Fig 6. Power gain and drain efficiency as function of output power; typical values



V_{DS} = 28 V; I_{Dq} = 180 mA.

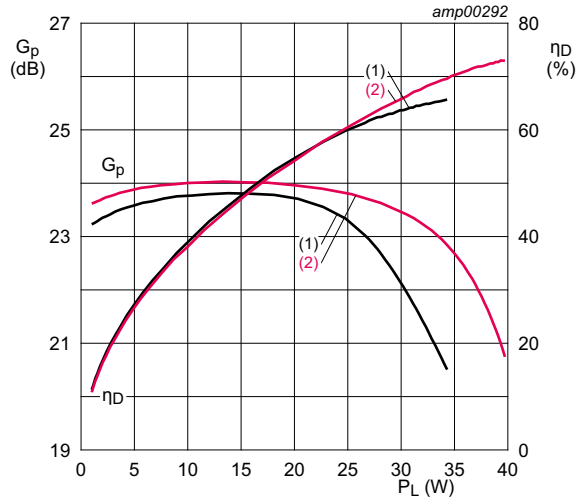
(1) f = 2110 MHz

(2) f = 2170 MHz

Fig 7. Power gain and drain efficiency as function of output power; typical values

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

7.4.2 Pulsed CW

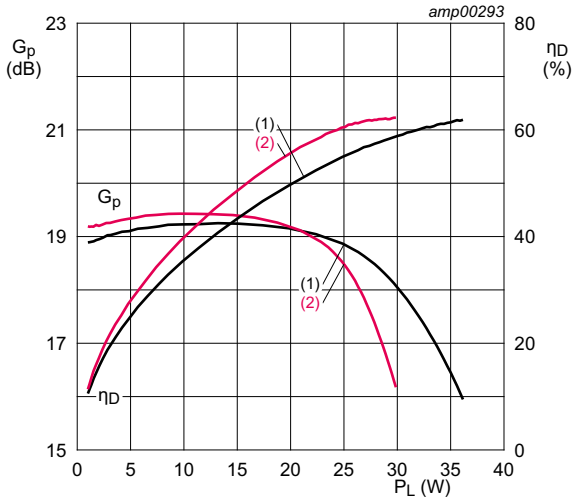


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 728 MHz

(2) f = 768 MHz

Fig 8. Power gain and drain efficiency as function of output power; typical values

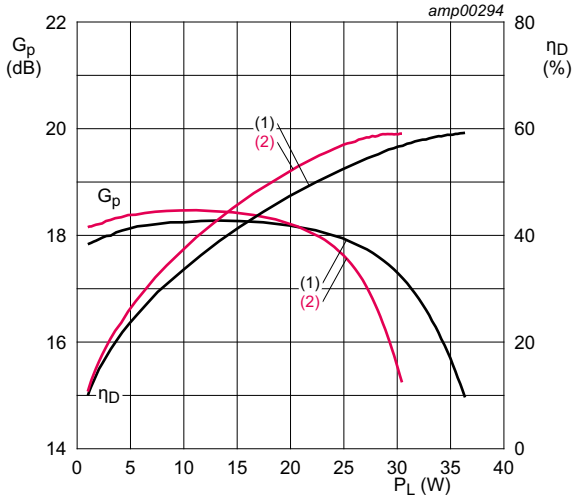


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 1805 MHz

(2) f = 1880 MHz

Fig 9. Power gain and drain efficiency as function of output power; typical values



V_{DS} = 28 V; I_{Dq} = 180 mA.

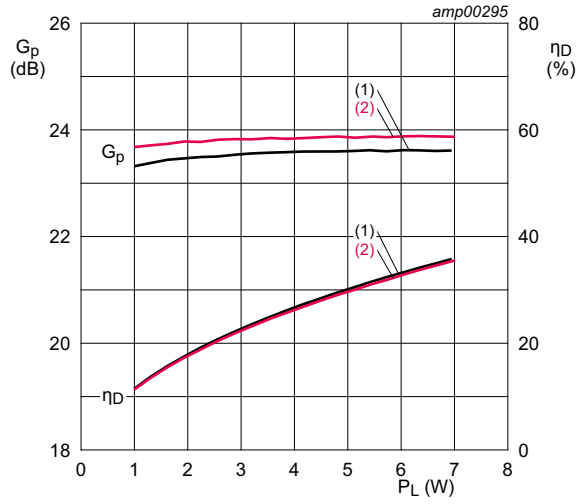
(1) f = 2110 MHz

(2) f = 2170 MHz

Fig 10. Power gain and drain efficiency as function of output power; typical values

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

7.4.3 1-Carrier W-CDMA

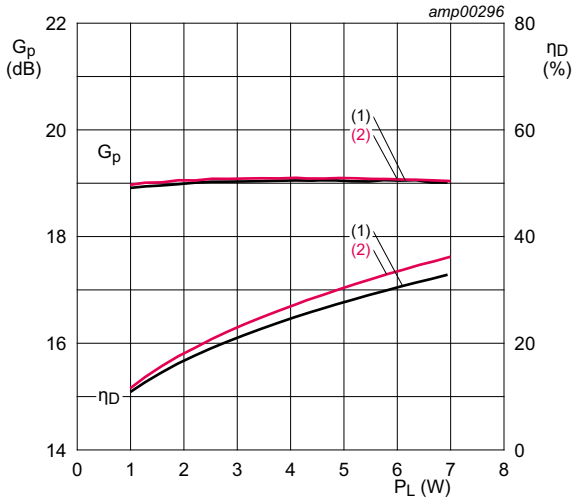


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 728 MHz

(2) f = 768 MHz

Fig 11. Power gain and drain efficiency as function of output power; typical values

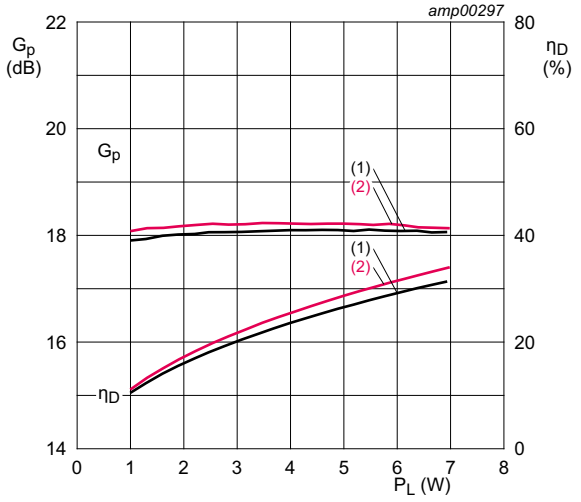


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 1805 MHz

(2) f = 1880 MHz

Fig 12. Power gain and drain efficiency as function of output power; typical values



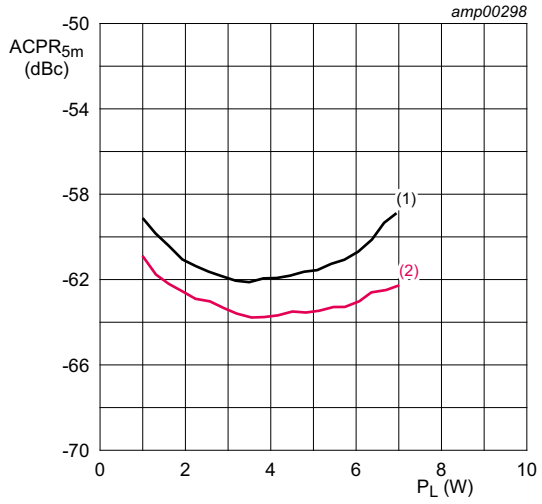
V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 2110 MHz

(2) f = 2170 MHz

Fig 13. Power gain and drain efficiency as function of output power; typical values

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

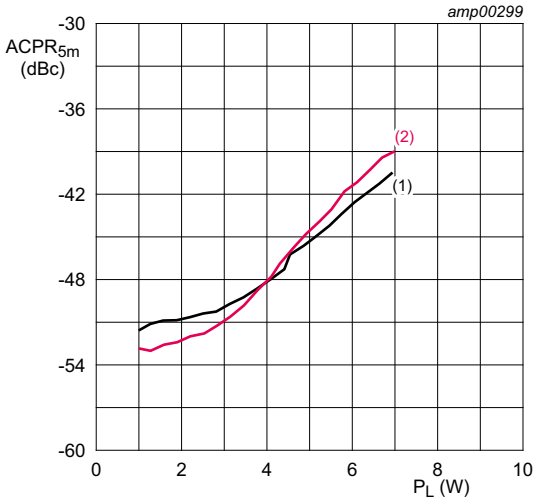


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 728 MHz

(2) f = 768 MHz

Fig 14. Adjacent channel power ratio (5 MHz) as a function of output power; typical values

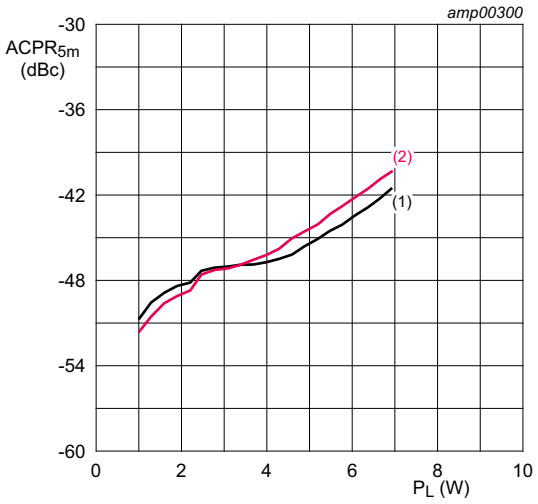


V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 1805 MHz

(2) f = 1880 MHz

Fig 15. Adjacent channel power ratio (5 MHz) as a function of output power; typical values



V_{DS} = 28 V; I_{Dq} = 180 mA.

(1) f = 2110 MHz

(2) f = 2170 MHz

Fig 16. Adjacent channel power ratio (5 MHz) as a function of output power; typical values

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

8. Package outline

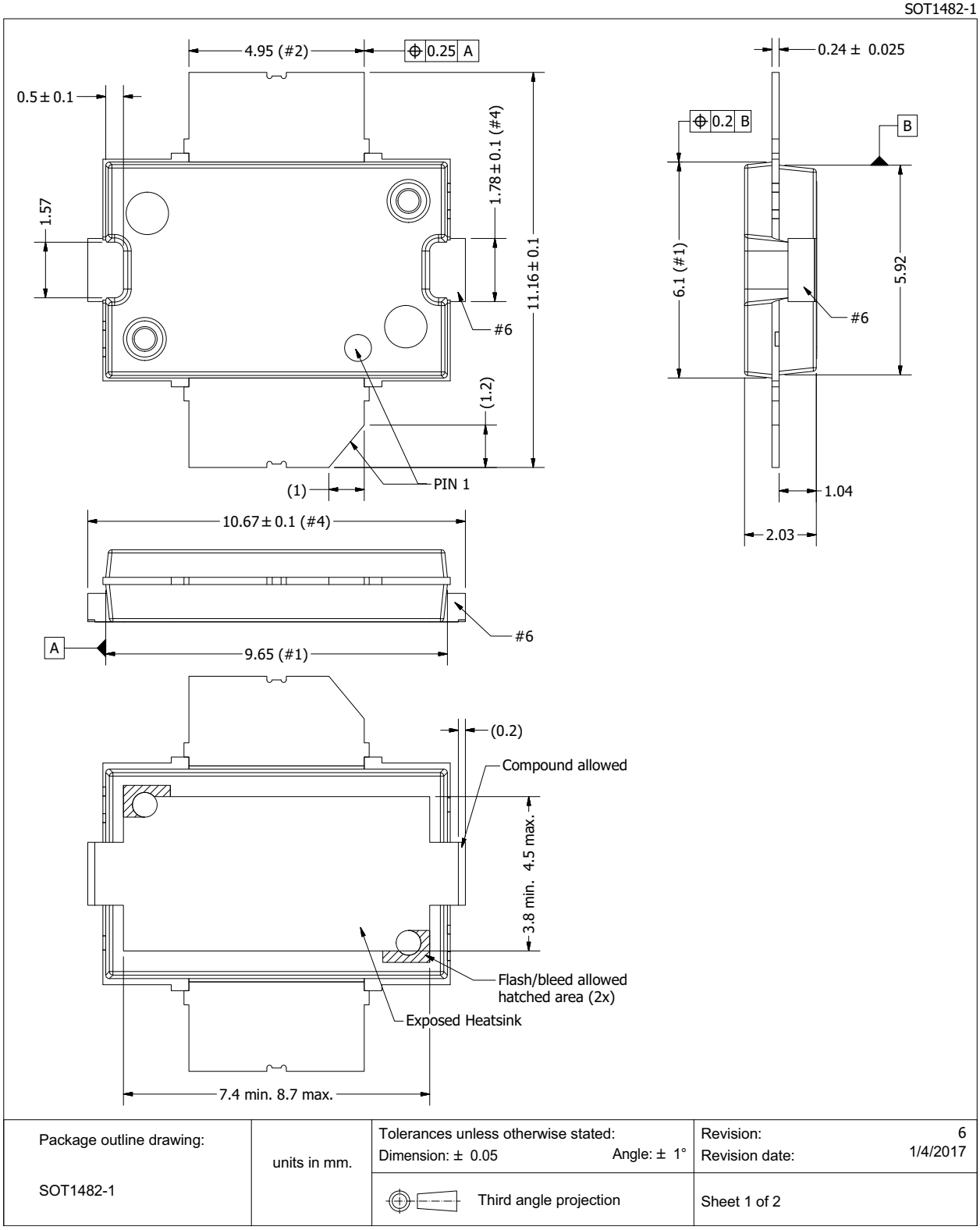
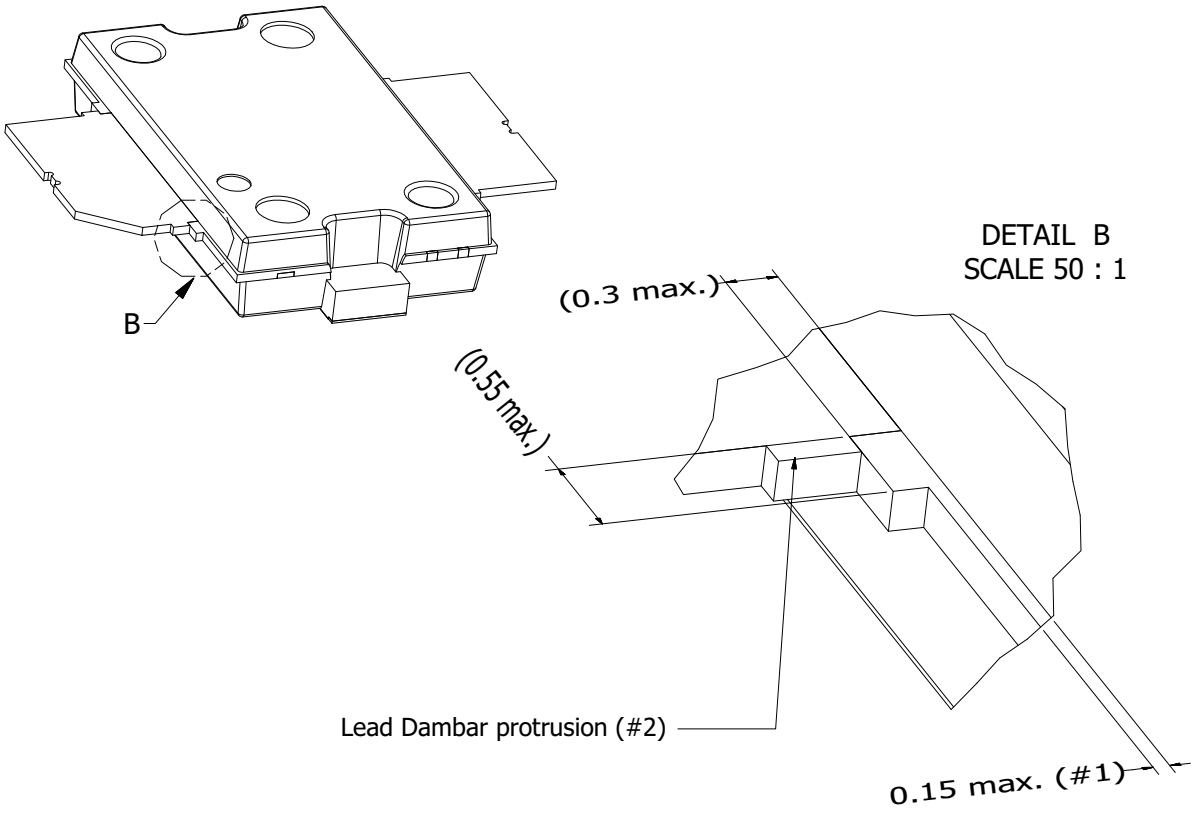


Fig 17. Package outline SOT1482-1 (sheet 1 of 2)

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

SOT1482-1

Drawing Notes	
Items	Description
(1)	Dimensions are excluding mold protrusion. The mold protrusion is maximum 0.15 mm per side. See also detail B. In the dambar area max. protrusion is 0.55 mm. max. in length and 0.3 mm. max. in width (4x). See also detail B.
(2)	The lead dambar (metal) protrusions are not included. Add 0.14 mm max to the total lead dimension at the dambar location.
(3)	The leads and exposed heatsink are plated with matte Tin (Sn).
(4)	Dimensions (Heatsink ears) 10,67 and 1,78 do not include mouldprotrusion. Overall Max. dimensions incl. mould protrusions is 10.92 mm. (max.) and 2.03 mm. (max.)
(5)	Lead coplanarity over the leads is 0,1 mm. maximum.
(6)	Surfaces may remain unplated (not solderable surfaces)



Package outline drawing: SOT1482-1	units in mm.	Tolerances unless otherwise stated: Dimension: ± 0.05 Angle: ± 1° Third angle projection	Revision: 6 Revision date: 1/4/2017 Sheet 2 of 2

Fig 18. Package outline SOT1482-1 (sheet 2 of 2)

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

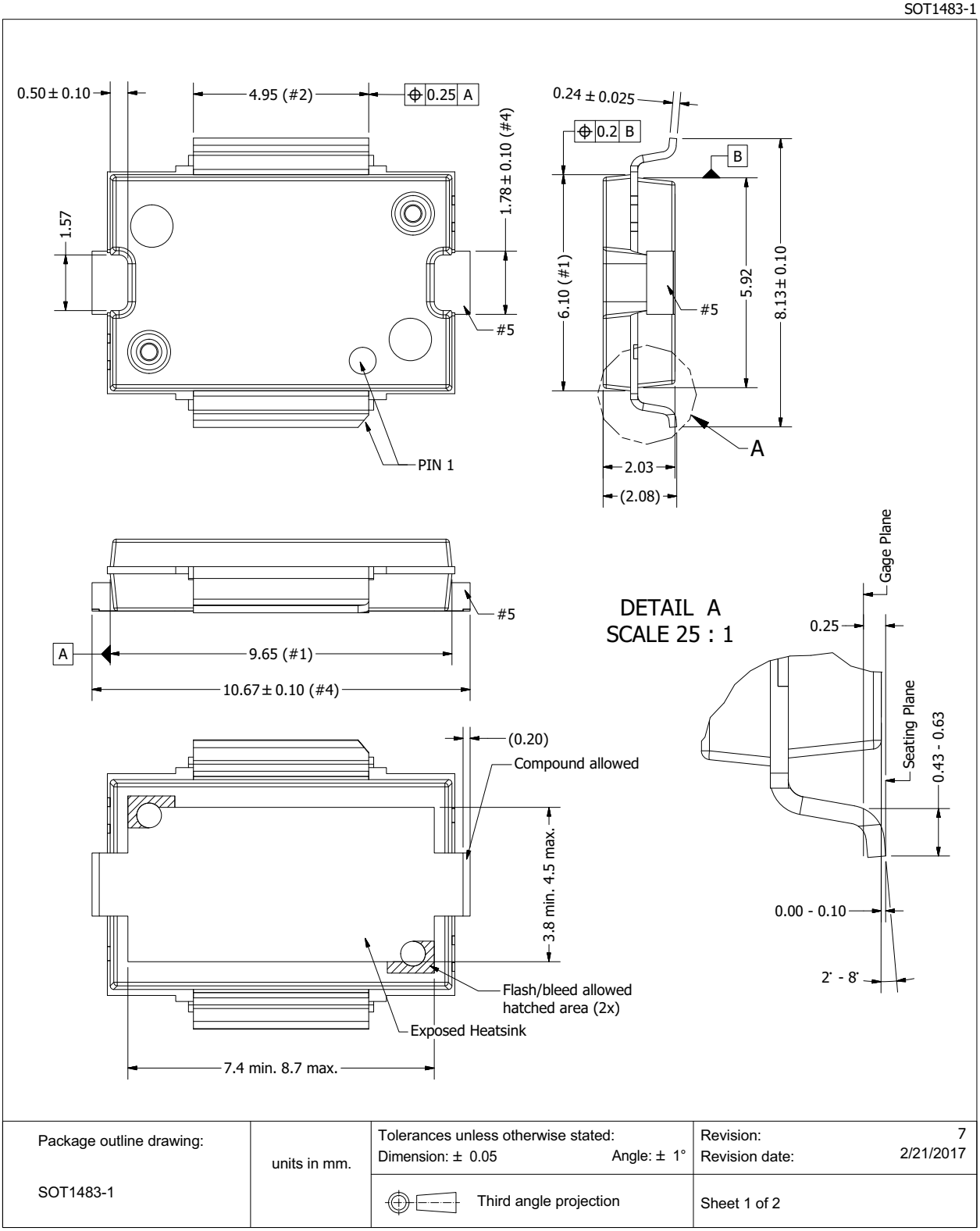
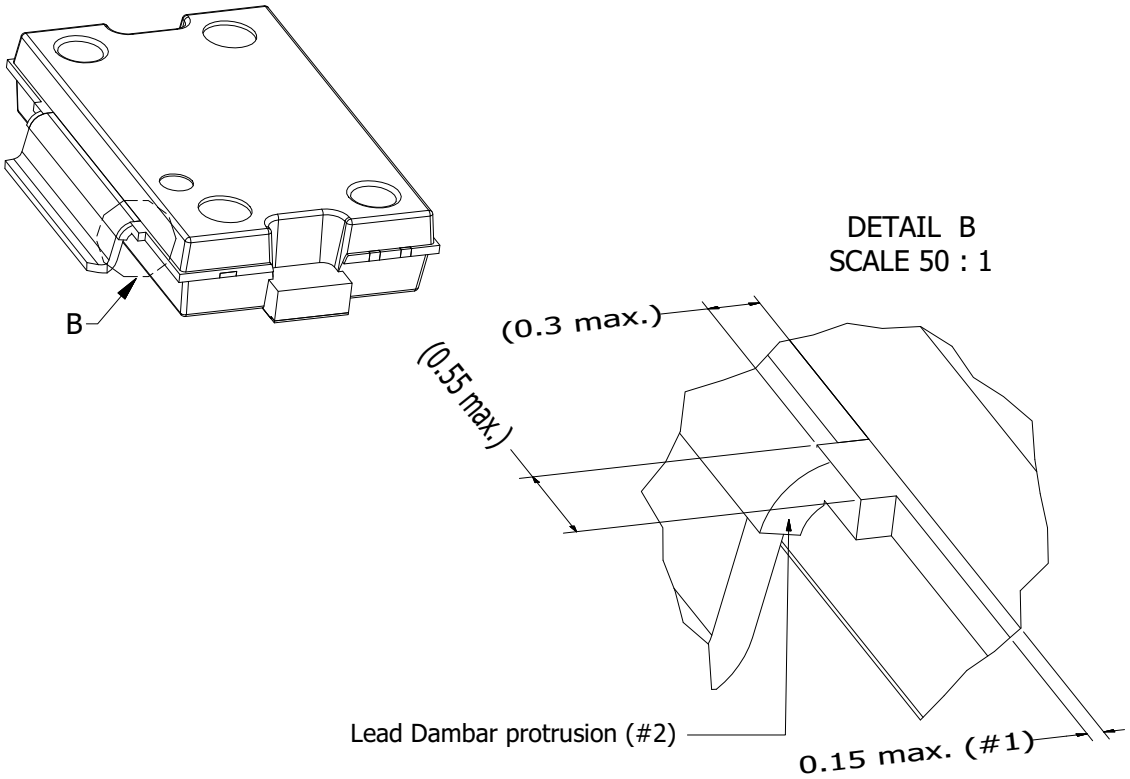


Fig 19. Package outline SOT1483-1 (sheet 1 of 2)

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

SOT1483-1

Drawing Notes	
Items	Description
(1)	Dimensions are excluding mold protrusion. The mold protrusion is maximum 0.15 mm per side. See also detail B. In the dambar area max. protrusion is 0.55mm max. in lenght and 0.3 mm max. in width (4x) See also detail B.
(2)	The lead dambar (metal) protrusions are not included. Add 0.14 mm max to the total lead dimension at the dambar location.
(3)	The leads and exposed heatsink are plated with matte Tin (Sn).
(4)	Dimensions (Heatsink ears) 10,67 and 1,78 do not include mouldprotrusion. Overall Max. dimensions incl. mould protrusions is 10,92 mm. (max.) and 2,03 mm. (max.).
(5)	Surfaces may remain unplated (not solderable surfaces).



Package outline drawing: SOT1483-1	units in mm.	Tolerances unless otherwise stated: Dimension: ± 0.05 Angle: ± 1° Third angle projection	Revision: 7 Revision date: 2/21/2017 Sheet 2 of 2

Fig 20. Package outline SOT1483-1 (sheet 2 of 2)

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

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.

Table 13. ESD sensitivity

ESD model	Class
Charged Device Model (CDM); According to ANSI/ESDA/JEDEC standard JS-002	C2A [1]
Human Body Model (HBM); According to ANSI/ESDA/JEDEC standard JS-001	2 [2]

[1] CDM classification C2A is granted to any part that passes after exposure to an ESD pulse of 500 V, but fails after exposure to an ESD pulse of 750 V.

[2] HBM classification 2 is granted to any part that passes after exposure to an ESD pulse of 2000 V, but fails after exposure to an ESD pulse of 4000 V.

10. Abbreviations

Table 14. Abbreviations

Acronym	Description
3GPP	3rd Generation Partnership Project
CCDF	Complementary Cumulative Distribution Function
CDMA	Code Division Multiple Access
CW	Continuous Wave
DCPH	Dedicated Physical CHannel
EDGE	Enhanced Data rates for GSM Evolution
ESD	ElectroStatic Discharge
FDD	Frequency Division Duplex
GSM	Global System for Mobile Communication
LDMOS	Laterally Diffused Metal-Oxide Semiconductor
LTE	Long Term Evolution
MC-GSM	Multi Carrier GSM
MTF	Median Time to Failure
PAR	Peak-to-Average Ratio
SMD	Surface Mounted Device
TDD	Time Division Duplex
W-CDMA	Wideband Code Division Multiple Access
WiMAX	Worldwide Interoperability for Microwave Access

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

11. Revision history

Table 15. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BLP9G0722-20_9G0722-20G v.3	20180226	Product data sheet	-	BLP9G0722-20_9G0722-20G v.2
Modifications:	• Section 1.1 on page 1: changed “400 MHz” to “100 MHz”			
BLP9G0722-20_9G0722-20G v.2	20170801	Product data sheet	-	BLP9G0722-20_9G0722-20G v.1
BLP9G0722-20_9G0722-20G v.1	20170606	Product data sheet	-	-

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

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".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.ampleon.com.

12.2 Definitions

Draft — The document is a draft version only. The content is still under internal review and subject to formal approval, which may result in modifications or additions. Ampleon does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

Short data sheet — A short data sheet is an extract from a full data sheet with the same product type number(s) and title. A short data sheet is intended for quick reference only and should not be relied upon to contain detailed and full information. For detailed and full information see the relevant full data sheet, which is available on request via the local Ampleon sales office. In case of any inconsistency or conflict with the short data sheet, the full data sheet shall prevail.

Product specification — The information and data provided in a Product data sheet shall define the specification of the product as agreed between Ampleon and its customer, unless Ampleon and customer have explicitly agreed otherwise in writing. In no event however, shall an agreement be valid in which the Ampleon product is deemed to offer functions and qualities beyond those described in the Product data sheet.

12.3 Disclaimers

Limited warranty and liability — Information in this document is believed to be accurate and reliable. However, Ampleon does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information. Ampleon takes no responsibility for the content in this document if provided by an information source outside of Ampleon.

In no event shall Ampleon be liable for any indirect, incidental, punitive, special or consequential damages (including - without limitation - lost profits, lost savings, business interruption, costs related to the removal or replacement of any products or rework charges) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Notwithstanding any damages that customer might incur for any reason whatsoever, Ampleon's aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the *Terms and conditions of commercial sale* of Ampleon.

Right to make changes — Ampleon reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.

Suitability for use — Ampleon products are not designed, authorized or warranted to be suitable for use in life support, life-critical or safety-critical systems or equipment, nor in applications where failure or malfunction of an Ampleon product can reasonably be expected to result in personal injury, death or severe property or environmental damage. Ampleon and its suppliers accept no liability for inclusion and/or use of Ampleon products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

Applications — Applications that are described herein for any of these products are for illustrative purposes only. Ampleon makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

Customers are responsible for the design and operation of their applications and products using Ampleon products, and Ampleon accepts no liability for any assistance with applications or customer product design. It is customer's sole responsibility to determine whether the Ampleon product is suitable and fit for the customer's applications and products planned, as well as for the planned application and use of customer's third party customer(s). Customers should provide appropriate design and operating safeguards to minimize the risks associated with their applications and products.

Ampleon does not accept any liability related to any default, damage, costs or problem which is based on any weakness or default in the customer's applications or products, or the application or use by customer's third party customer(s). Customer is responsible for doing all necessary testing for the customer's applications and products using Ampleon products in order to avoid a default of the applications and the products or of the application or use by customer's third party customer(s). Ampleon does not accept any liability in this respect.

Limiting values — Stress above one or more limiting values (as defined in the Absolute Maximum Ratings System of IEC 60134) will cause permanent damage to the device. Limiting values are stress ratings only and (proper) operation of the device at these or any other conditions above those given in the Recommended operating conditions section (if present) or the Characteristics sections of this document is not warranted. Constant or repeated exposure to limiting values will permanently and irreversibly affect the quality and reliability of the device.

Terms and conditions of commercial sale — Ampleon products are sold subject to the general terms and conditions of commercial sale, as published at http://www.ampleon.com/terms, unless otherwise agreed in a valid written individual agreement. In case an individual agreement is concluded only the terms and conditions of the respective agreement shall apply. Ampleon hereby expressly objects to applying the customer's general terms and conditions with regard to the purchase of Ampleon products by customer.

No offer to sell or license — Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.

Export control — This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from competent authorities.

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

Non-automotive qualified products — Unless this data sheet expressly states that this specific Ampleon product is automotive qualified, the product is not suitable for automotive use. It is neither qualified nor tested in accordance with automotive testing or application requirements. Ampleon accepts no liability for inclusion and/or use of non-automotive qualified products in automotive equipment or applications.

In the event that customer uses the product for design-in and use in automotive applications to automotive specifications and standards, customer (a) shall use the product without Ampleon's warranty of the product for such automotive applications, use and specifications, and (b) whenever customer uses the product for automotive applications beyond Ampleon's specifications such use shall be solely at customer's own risk, and (c) customer fully indemnifies Ampleon for any liability, damages or failed product claims resulting from customer design and use of the product for automotive applications beyond Ampleon's standard warranty and Ampleon's product specifications.

Translations — A non-English (translated) version of a document is for reference only. The English version shall prevail in case of any discrepancy between the translated and English versions.

12.4 Trademarks

Notice: All referenced brands, product names, service names and trademarks are the property of their respective owners.

Any reference or use of any 'NXP' trademark in this document or in or on the surface of Ampleon products does not result in any claim, liability or entitlement vis-à-vis the owner of this trademark. Ampleon is no longer part of the NXP group of companies and any reference to or use of the 'NXP' trademarks will be replaced by reference to or use of Ampleon's own trademarks.

13. Contact information

For more information, please visit: **http://www.ampleon.com**

For sales office addresses, please visit: **http://www.ampleon.com/sales**

All information provided in this document is subject to legal disclaimers.
© Ampleon Netherlands B.V. 2018. All rights reserved.

14. Contents

1 Product profile 1
1.1 General description 1
1.2 Features and benefits 1
1.3 Applications 1
2 Pinning information 2
3 Ordering information 2
4 Limiting values 2
5 Thermal characteristics 2
6 Characteristics 3
7 Test information 3
7.1 Ruggedness in Doherty operation 3
7.2 Impedance information 3
7.3 Test circuit 5
7.4 Graphical data 8
7.4.1 CW 8
7.4.2 Pulsed CW 9
7.4.3 1-Carrier W-CDMA 10
8 Package outline 12
9 Handling information 16
10 Abbreviations 16
11 Revision history 17
12 Legal information 18
12.1 Data sheet status 18
12.2 Definitions 18
12.3 Disclaimers 18
12.4 Trademarks 19
13 Contact information 19
14 Contents 20

Please be aware that important notices concerning this document and the product(s) described herein, have been included in section 'Legal information'.

© Ampleon Netherlands B.V. 2018. All rights reserved.

For more information, please visit: http://www.ampleon.com
For sales office addresses, please visit: http://www.ampleon.com/sales

Date of release: 26 February 2018
Document identifier: BLP9G0722-20_9G0722-20G

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.