

# BLM7G1822S-80PB; BLM7G1822S-80PBG

LDMOS 2-stage power MMIC

Rev. 3 — 13 September 2018

AMPLEON

Product data sheet

## 1. Product profile

### 1.1 General description

The BLM7G1822S-80PB(G) is a dual section, 2-stage power MMIC using Ampleon's state of the art GEN7 LDMOS technology. This multiband device is perfectly suited as general purpose driver or small cell final in the frequency range from 1805 MHz to 2170 MHz. Available in gull wing or straight lead outline.

**Table 1. Performance**

Typical RF performance at  $T_{case} = 25\text{ }^{\circ}\text{C}$ . Test signal: 3GPP test model 1; 64 DPCH; PAR = 9.9 dB at 0.01 % probability on CCDF; per section unless otherwise specified in a class-AB production circuit.

Test signal	f (MHz)	I <sub>Dq1</sub> [1] (mA)	I <sub>Dq2</sub> [1] (mA)	V <sub>DS</sub> (V)	P <sub>L(AV)</sub> (W)	G <sub>p</sub> (dB)	η <sub>D</sub> (%)	ACPR <sub>5M</sub> (dBc)
single carrier W-CDMA	2167.5	80	240	28	8	28	24	-36

[1] I<sub>Dq1</sub> represents driver stage; I<sub>Dq2</sub> represents final stage.

### 1.2 Features and benefits

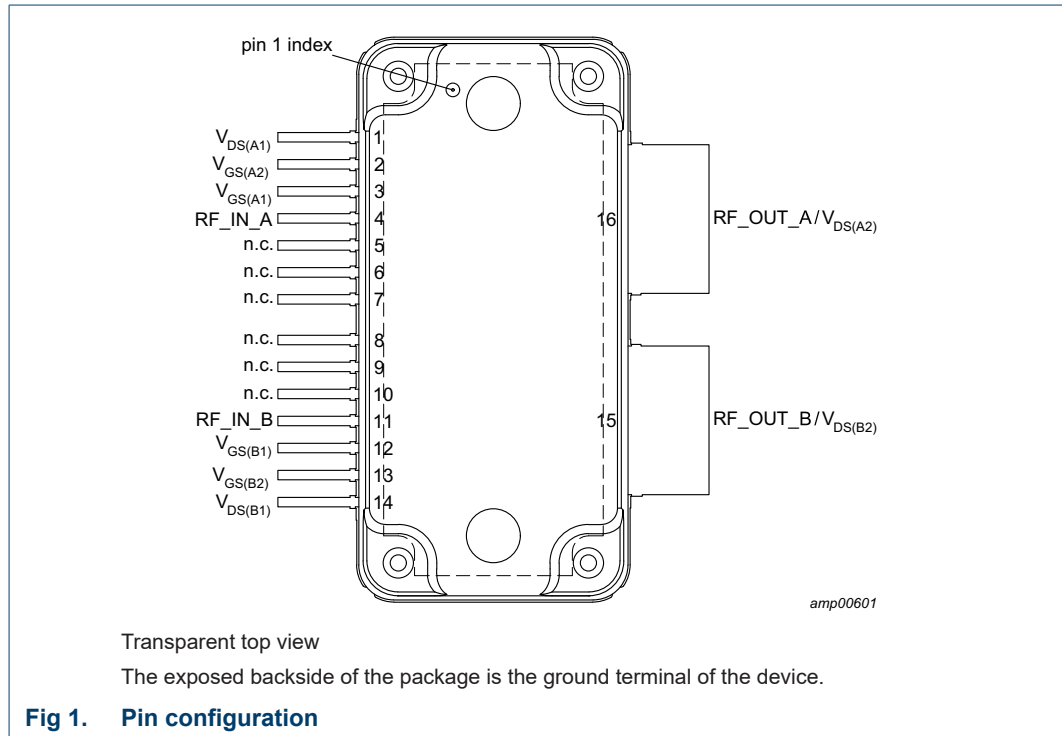
- Designed for broadband operation (frequency 1805 MHz to 2170 MHz)
- High section-to-section isolation enabling multiple combinations
- Integrated temperature compensated bias
- Biasing of individual stages is externally accessible
- Integrated ESD protection
- Excellent thermal stability
- High power gain
- On-chip matching for ease of use
- For RoHS compliance see the product details on the Ampleon website

### 1.3 Applications

- RF power MMIC for W-CDMA base stations in the 1805 MHz to 2170 MHz frequency range. Possible circuit topologies are the following as also depicted in [Section 8.1](#):
  - ◆ Dual section or single ended
  - ◆ Doherty
  - ◆ Quadrature combined
  - ◆ Push-pull

## 2. Pinning information

### 2.1 Pinning



### 2.2 Pin description

Table 2. Pin description

Symbol	Pin	Description
$V_{DS(A1)}$	1	drain-source voltage of section A, driver stage (A1)
$V_{GS(A2)}$	2	gate-source voltage of section A, final stage (A2)
$V_{GS(A1)}$	3	gate-source voltage of section A, driver stage (A1)
RF_IN_A	4	RF input section A
n.c.	5	not connected
n.c.	6	not connected
n.c.	7	not connected
n.c.	8	not connected
n.c.	9	not connected
n.c.	10	not connected
RF_IN_B	11	RF input section B
$V_{GS(B1)}$	12	gate-source voltage of section B, driver stage (B1)
$V_{GS(B2)}$	13	gate-source voltage of section B, final stage (B2)
$V_{DS(B1)}$	14	drain-source voltage of section B, driver stage (B1)

Table 2. Pin description ...continued

Symbol	Pin	Description
RF_OUT_B/ $V_{DS(B2)}$	15	RF output section B / drain-source voltage of section B, final stage (B2)
RF_OUT_A/ $V_{DS(A2)}$	16	RF output section A / drain-source voltage of section A, final stage (A2)
GND	flange	RF ground

### 3. Ordering information

Table 3. Ordering information

Type number	Package		Version
	Name	Description	
BLM7G1822S-80PB	-	plastic, heatsink small outline package; 16 leads (flat)	SOT1211-3
BLM7G1822S-80PBG	-	plastic, heatsink small outline package; 16 leads	SOT1212-3

### 4. Block diagram

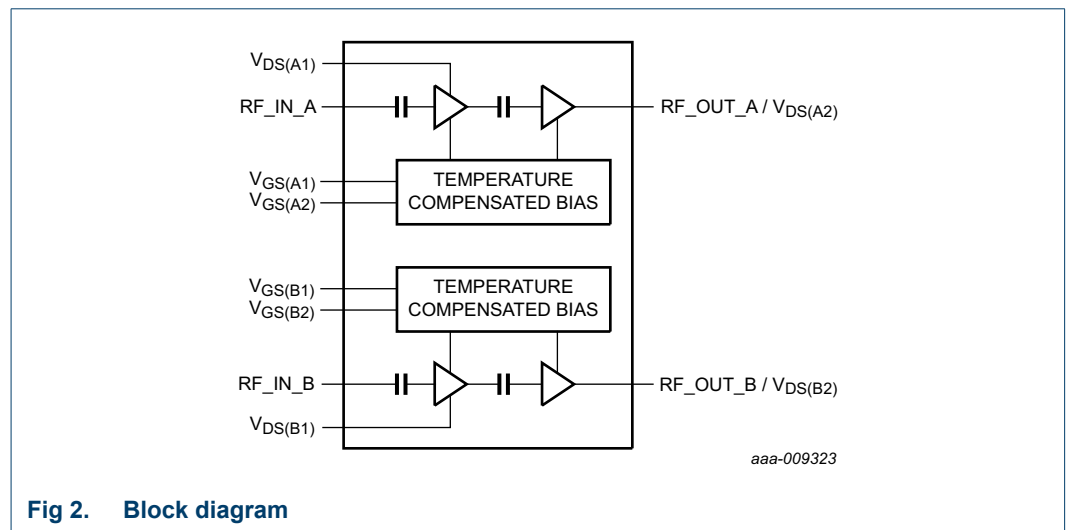


Fig 2. Block diagram

### 5. 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
$T_{case}$	case temperature		-	150	°C

[1] Continuous use at maximum temperature will affect the reliability. For details refer to the online MTF calculator.

## 6. Thermal characteristics

**Table 5. Thermal characteristics**

Measured for total device.

Symbol	Parameter	Conditions	Value	Unit
R <sub>th(j-c)</sub>	thermal resistance from junction to case	final stage; T <sub>case</sub> = 90 °C; P <sub>L</sub> = 5.04 W [1]	0.8	K/W
		driver stage; T <sub>case</sub> = 90 °C; P <sub>L</sub> = 5.04 W [1]	2.8	K/W

[1] When operated with a CW signal.

## 7. Characteristics

**Table 6. DC characteristics**

T<sub>case</sub> = 25 °C; per section unless otherwise specified.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Final stage</b>						
V <sub>(BR)DSS</sub>	drain-source breakdown voltage	V <sub>GS</sub> = 0 V; I <sub>D</sub> = 0.604 mA	65	-	-	V
V <sub>GSq</sub>	gate-source quiescent voltage	V <sub>DS</sub> = 28 V; I <sub>D</sub> = 240 mA	1.6	2.0	2.5	V
		V <sub>DS</sub> = 28 V; I <sub>D</sub> = 240 mA [1]	2.1	2.8	3.6	V
ΔI <sub>Dq</sub> /ΔT	quiescent drain current variation with temperature	-40 °C ≤ T <sub>case</sub> ≤ +85 °C [1]	-	2	-	%
I <sub>DSS</sub>	drain leakage current	V <sub>GS</sub> = 0 V; V <sub>DS</sub> = 28 V	-	-	1.4	μA
I <sub>DSX</sub>	drain cut-off current	V <sub>GS</sub> = 5.65 V; V <sub>DS</sub> = 10 V	-	11	-	A
I <sub>GSS</sub>	gate leakage current	V <sub>GS</sub> = 1.0 V; V <sub>DS</sub> = 0 V	-	-	140	nA
<b>Driver stage</b>						
V <sub>(BR)DSS</sub>	drain-source breakdown voltage	V <sub>GS</sub> = 0 V; I <sub>D</sub> = 0.116 mA	65	-	-	V
V <sub>GSq</sub>	gate-source quiescent voltage	V <sub>DS</sub> = 28 V; I <sub>D</sub> = 80 mA	1.7	2.1	2.6	V
		V <sub>DS</sub> = 28 V; I <sub>D</sub> = 80 mA [2]	2.1	2.7	3.4	V
ΔI <sub>Dq</sub> /ΔT	quiescent drain current variation with temperature	-40 °C ≤ T <sub>case</sub> ≤ +85 °C [2]	-	2	-	%
I <sub>DSS</sub>	drain leakage current	V <sub>GS</sub> = 0 V; V <sub>DS</sub> = 28 V	-	-	1.4	μA
I <sub>DSX</sub>	drain cut-off current	V <sub>GS</sub> = 5.65 V; V <sub>DS</sub> = 10 V	-	1.9	-	A
I <sub>GSS</sub>	gate leakage current	V <sub>GS</sub> = 1.0 V; V <sub>DS</sub> = 0 V	-	-	140	nA

[1] In production circuit with 1205 Ω gate feed resistor.

[2] In production circuit with 460 Ω gate feed resistor.

**Table 7. RF Characteristics**

Typical RF performance at T<sub>case</sub> = 25 °C; V<sub>DS</sub> = 28 V; I<sub>Dq1</sub> = 80 mA (driver stage); P<sub>L(AV)</sub> = 8 W unless otherwise specified, measured in an Ampleon straight lead production circuit.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Test signal: single carrier W-CDMA [1]</b>						
G <sub>p</sub>	power gain	f = 1877.5 MHz; I <sub>Dq2</sub> = 200 mA (final stage)	-	29	-	dB
		f = 2167.5 MHz; I <sub>Dq2</sub> = 240 mA (final stage)	26.5	28	29.5	dB
η <sub>D</sub>	drain efficiency	f = 1877.5 MHz; I <sub>Dq2</sub> = 200 mA (final stage)	-	26	-	%
		f = 2167.5 MHz; I <sub>Dq2</sub> = 240 mA (final stage)	18	24	-	%

**Table 7. RF Characteristics ...continued**

Typical RF performance at  $T_{case} = 25\text{ °C}$ ;  $V_{DS} = 28\text{ V}$ ;  $I_{Dq1} = 80\text{ mA}$  (driver stage);  $P_{L(AV)} = 8\text{ W}$  unless otherwise specified, measured in an Ampleon straight lead production circuit.

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
RL <sub>in</sub>	input return loss	f = 1877.5 MHz; I <sub>Dq2</sub> = 200 mA (final stage)	-	-18	-	dB
		f = 2167.5 MHz; I <sub>Dq2</sub> = 240 mA (final stage)	-	-20	-10	dB
ACPR <sub>5M</sub>	adjacent channel power ratio (5 MHz)	f = 1877.5 MHz; I <sub>Dq2</sub> = 200 mA (final stage)	-	-38	-	dBc
		f = 2167.5 MHz; I <sub>Dq2</sub> = 240 mA (final stage)	-	-36	-28.5	dBc
PAR <sub>O</sub>	output peak-to-average ratio	f = 1877.5 MHz; I <sub>Dq2</sub> = 200 mA (final stage)	-	8.6	-	dB
		f = 2167.5 MHz; I <sub>Dq2</sub> = 240 mA (final stage)	4.6	7	-	dB
<b>Test signal: CW [2]</b>						
Δφ <sub>s21</sub>	phase response difference	between sections	-15	-	+15	deg
Δ s <sub>21</sub>   <sup>2</sup>	insertion power gain difference	between sections	-0.6	-	+0.6	dB

[1] 3GPP test model 1; 64 DPCH; PAR = 9.9 dB at 0.01 % probability on CCDF.

[2] f = 2170 MHz.

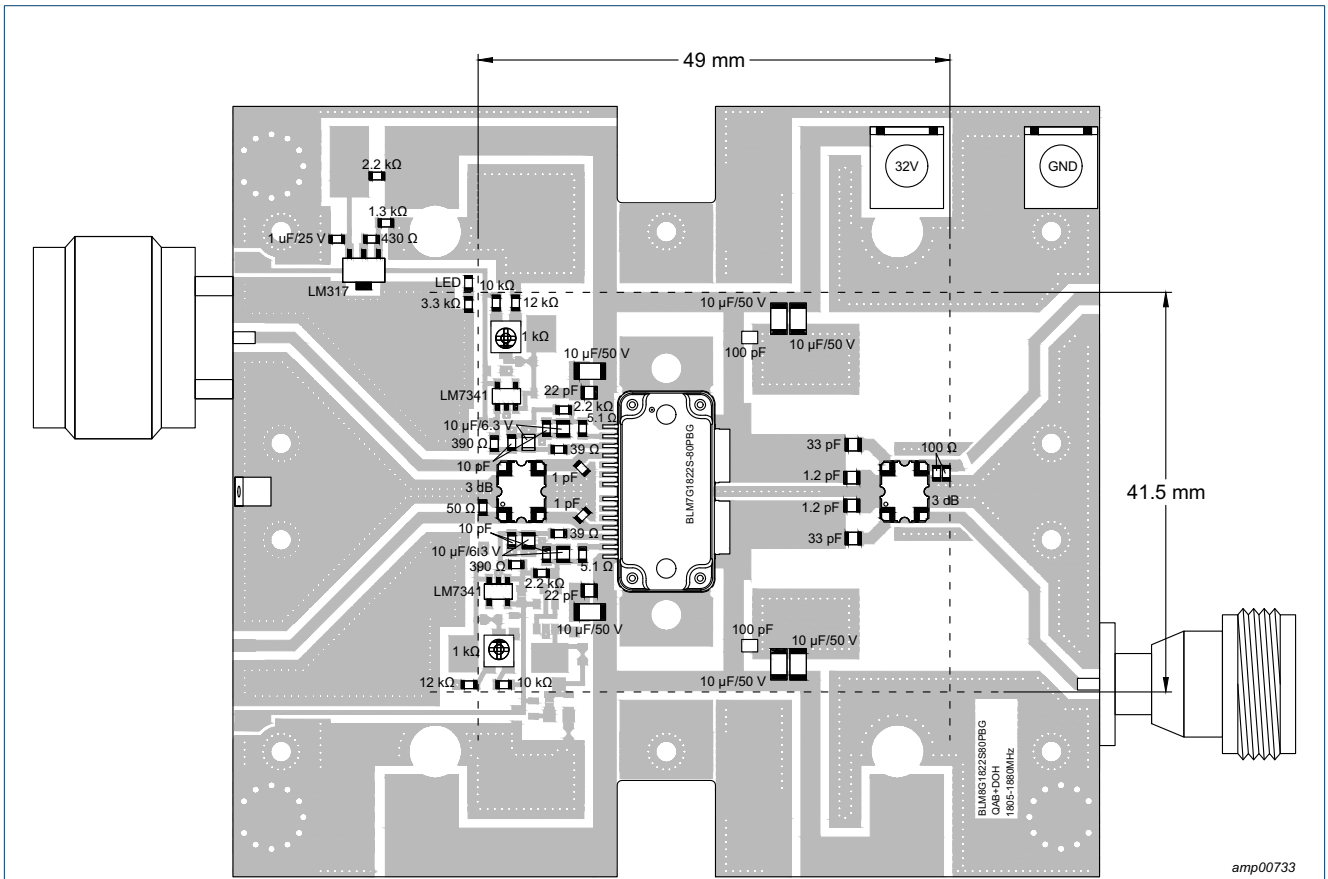
## 8. Application information

**Table 8. Typical performance**

$T_{case} = 25\text{ °C}$ ;  $V_{DS} = 32\text{ V}$ ;  $I_{Dq} = 544\text{ mA}$  (driver and final stages); Test signal: 1-carrier W-CDMA; 64 DPCH; PAR = 9.9 dB at 0.01 % probability CCDF; unless otherwise specified, measured in an Ampleon, f = 1805 MHz to 1880 MHz, quadrature combined Class AB application circuit (see [Figure 3](#) and [Figure 4](#)).

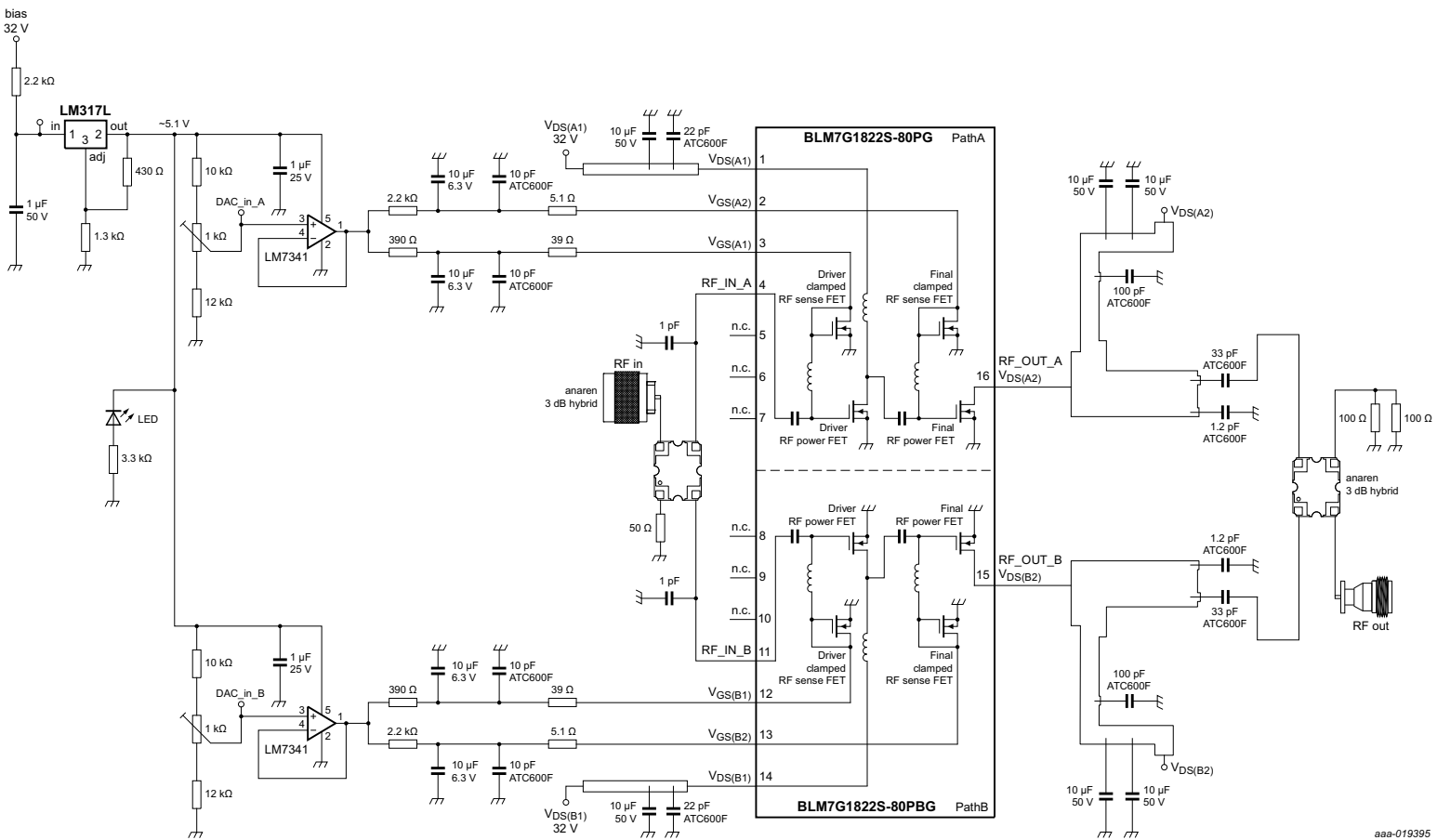
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
P <sub>L(1dB)</sub>	output power at 1 dB gain compression	f = 1840 MHz	-	48.9	-	dBm
P <sub>L(3dB)</sub>	output power at 3 dB gain compression	f = 1840 MHz	-	49.6	-	dBm
η <sub>D</sub>	drain efficiency	12 dB OBO (P <sub>L(AV)</sub> = 37.6 dBm); f = 1840 MHz	-	13.7	-	%
G <sub>p</sub>	power gain	P <sub>L(AV)</sub> = 37.6 W; f = 1840 MHz	-	29	-	dB
B <sub>video</sub>	video bandwidth	P <sub>L(AV)</sub> = 41.6 W; 2-tone CW; f = 1840 MHz	-	90	-	MHz
G <sub>flat</sub>	gain flatness	P <sub>L(AV)</sub> = 37.6 W	-	0.2	-	dB
ΔG/ΔT	gain variation with temperature	f = 1840 MHz	[1]	0.04	-	dB/°C
s <sub>12</sub>   <sup>2</sup>	isolation	between sections A and B; P <sub>L(AV)</sub> = 9 dBm; f = 1840 MHz; measured on production board; I <sub>Dq</sub> = 560 mA (both sections)	-	25	-	dB
K	Rollett stability factor	T <sub>case</sub> = -40 °C; f = 0.1 GHz to 3 GHz	[1]	> 1	-	

[1] For both sections (S-parameters measured with load-pull jig).



Printed-Circuit Board (PCB): Rogers 4350; thickness = 0.508 mm.

**Fig 3. Component layout**



aaa-019395

Fig 4. Electrical schematic

8.1 Possible circuit topologies

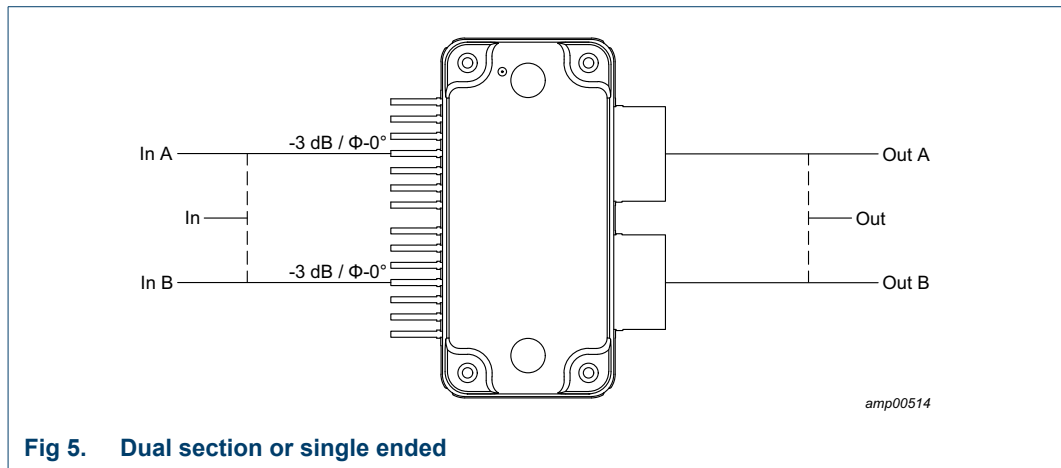


Fig 5. Dual section or single ended

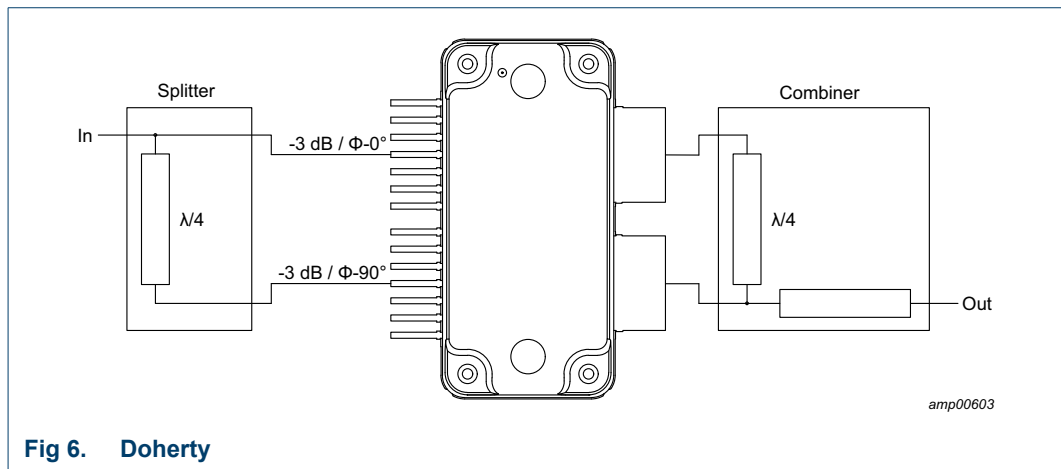


Fig 6. Doherty

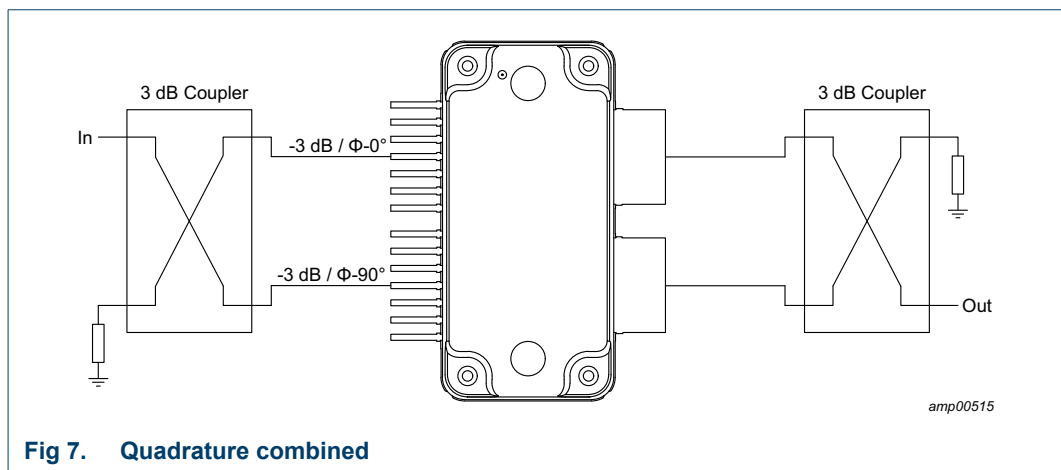


Fig 7. Quadrature combined



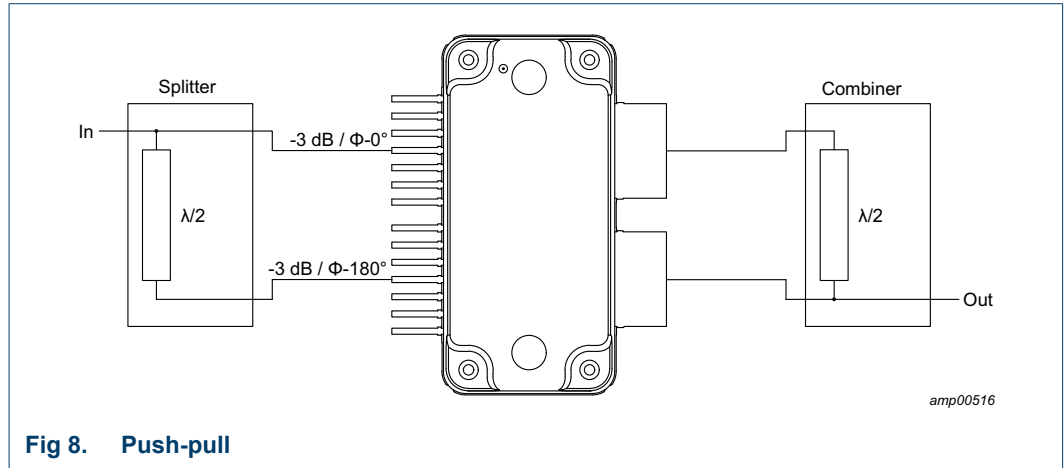


Fig 8. Push-pull

### 8.2 Ruggedness in class-AB operation

The BLM7G1822S-80PB and BLM7G1822S-80PBG are capable of withstanding a load mismatch corresponding to VSWR = 10 : 1 through all phases under the following conditions:  $f = 2140 \text{ MHz}$ ;  $V_{DS} = 32 \text{ V}$ ;  $I_{Dq1} = 80 \text{ mA}$  (each section, driver stage);  $I_{Dq2} = 180 \text{ mA}$  (each section, final stage);  $P_i = 22 \text{ dBm}$  (each section).  $P_i$  is measured at CW and corresponding to  $P_{L(3dB)}$  under  $Z_S = 50 \Omega$  load.

### 8.3 Impedance information

Table 9. Typical impedance

Measured load-pull data per section at 3 dB gain compression point; test signal: pulsed CW;  $T_{case} = 25 \text{ }^\circ\text{C}$ ;  $V_{DS} = 28 \text{ V}$ ;  $t_p = 100 \mu\text{s}$ ;  $\delta = 10 \%$ ;  $Z_S = 50 \Omega$ ;  $I_{Dq1} = 80 \text{ mA}$  (driver stage);  $I_{Dq2} = 200 \text{ mA}$  (final stage). Typical values unless otherwise specified.

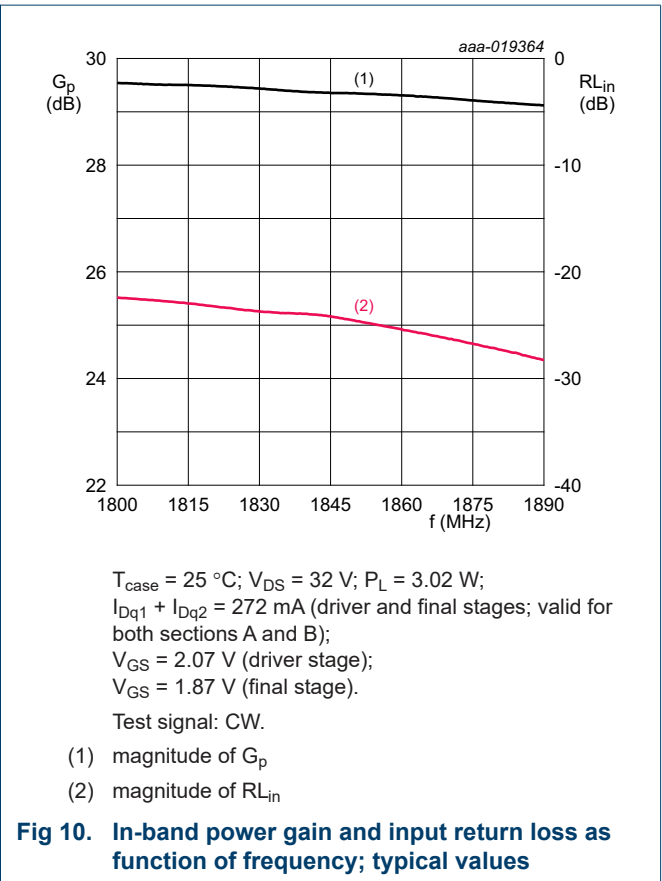
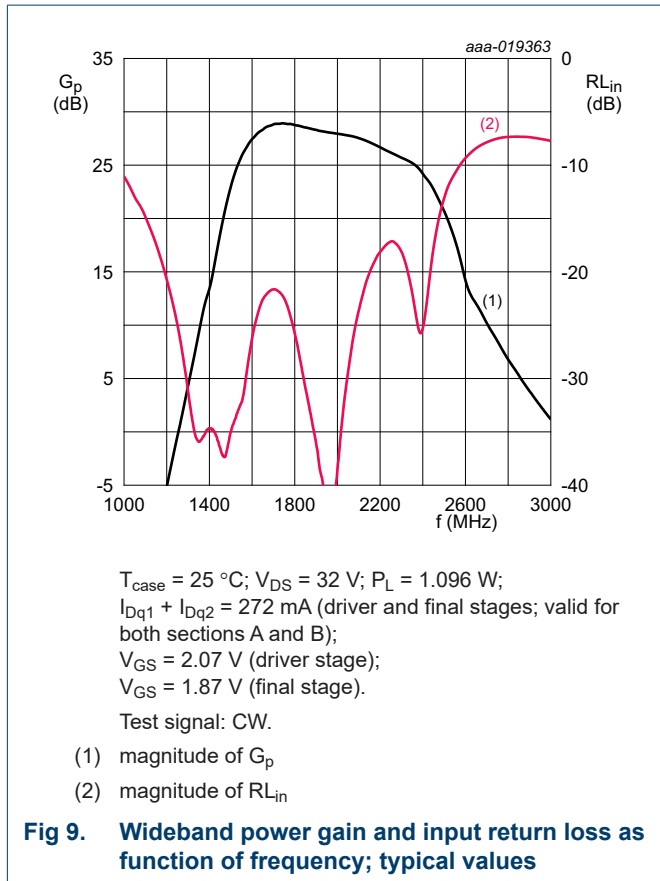
f	tuned for maximum output power					tuned for maximum power added efficiency				
	Z <sub>L</sub>	G <sub>p(max)</sub>	P <sub>L</sub>	η <sub>add</sub>	AM-PM conversion	Z <sub>L</sub>	G <sub>p(max)</sub>	P <sub>L</sub>	η <sub>add</sub>	AM-PM conversion
(MHz)	(Ω)	(dB)	(dBm)	(%)	(deg)	(Ω)	(dB)	(dBm)	(%)	(deg)
<b>BLM7G1822S-80PB</b>										
1810	2.6 – j5.9	29.2	48.6	49.6	-2.7	5.4 – j5.1	30.3	47.4	56.4	-5.6
1840	2.7 – j5.8	29.9	48.5	49.3	-3.8	4.9 – j4.8	30.9	47.5	56.3	-6.2
1880	2.6 – j5.8	29.6	48.5	48.5	-2.4	4.8 – j4.3	30.6	47.4	55.3	-5.0
1930	2.6 – j5.8	29.9	48.4	47.9	-1.1	4.3 – j4.2	30.8	47.4	54.3	-2.9
1960	2.6 – j5.8	29.9	48.4	48.0	-1.0	4.2 – j4.2	30.8	47.5	54.3	-2.2
1990	2.6 – j5.7	29.6	48.3	47.5	-2.1	3.6 – j4.0	30.4	47.4	53.8	-3.9
2110	2.6 – j5.8	29.8	48.3	48.3	-3.6	3.1 – j4.1	30.2	47.4	52.6	-4.7
2140	2.6 – j5.8	29.8	48.3	48.6	-4.1	3.1 – j4.7	30.3	47.6	51.9	-3.9
2170	2.6 – j5.8	29.5	48.2	46.0	-5.4	2.6 – j4.7	30.1	47.5	51.2	-6.4
<b>BLM7G1822S-80PBG</b>										
1810	3.0 – j8.9	29.3	48.4	50.6	-1.7	5.3 – j7.6	30.3	47.5	57.5	-5.3
1840	2.7 – j8.7	29.1	48.3	48.4	-4.4	5.0 – j7.5	30.2	47.5	56.9	-7.5
1880	3.0 – j8.8	29.4	48.4	50.5	-2.3	4.7 – j7.1	30.3	47.4	56.4	-5.1
1930	2.7 – j9.0	29.6	48.4	48.7	-2.7	4.4 – j7.0	30.6	47.4	56.1	-5.5

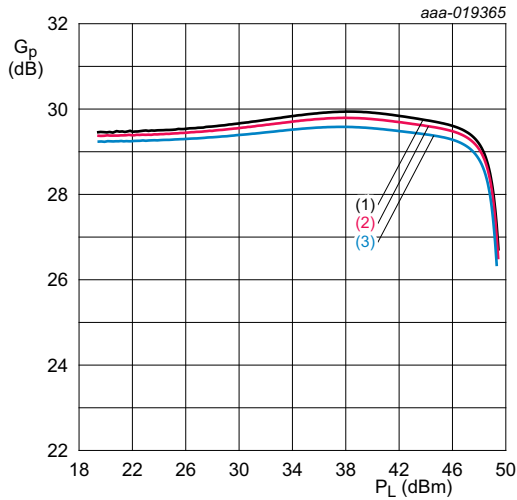
**Table 9. Typical impedance ...continued**

Measured load-pull data per section at 3 dB gain compression point; test signal: pulsed CW;  $T_{case} = 25\text{ }^\circ\text{C}$ ;  $V_{DS} = 28\text{ V}$ ;  $t_p = 100\text{ }\mu\text{s}$ ;  $\delta = 10\text{ }%$ ;  $Z_S = 50\text{ }\Omega$ ;  $I_{Dq1} = 80\text{ mA}$  (driver stage);  $I_{Dq2} = 200\text{ mA}$  (final stage). Typical values unless otherwise specified.

f	tuned for maximum output power					tuned for maximum power added efficiency				
	$Z_L$	$G_{p(max)}$	$P_L$	$\eta_{add}$	AM-PM conversion	$Z_L$	$G_{p(max)}$	$P_L$	$\eta_{add}$	AM-PM conversion
(MHz)	( $\Omega$ )	(dB)	(dBm)	(%)	(deg)	( $\Omega$ )	(dB)	(dBm)	(%)	(deg)
1960	2.7 - j9.0	29.6	48.4	48.7	-2.7	4.0 - j6.8	30.6	47.4	55.9	-5.3
1990	2.7 - j8.9	29.7	48.4	48.0	-2.0	3.8 - j7.1	30.6	47.5	55.0	-3.7
2110	2.7 - j9.5	29.9	48.5	49.5	-3.4	2.8 - j7.6	30.6	47.6	54.9	-4.2
2140	2.6 - j9.5	29.9	48.3	49.1	-4.0	2.6 - j7.9	30.5	47.6	53.7	-3.2
2170	2.4 - j9.7	29.7	48.3	47.4	-5.5	2.6 - j8.2	30.5	47.7	53.0	-4.6

**8.4 Graphs**



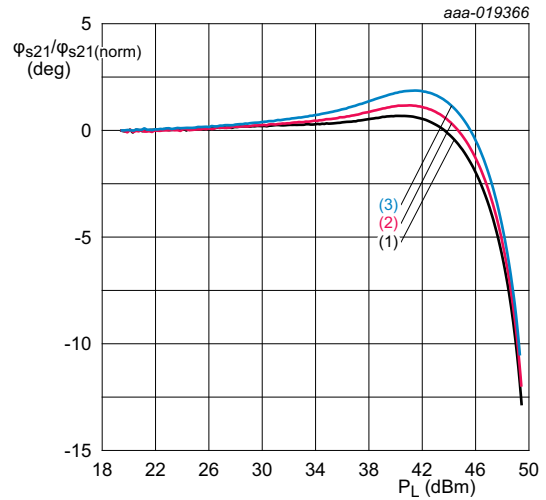


$T_{case} = 25\text{ }^{\circ}\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  
 $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  
 $V_{GS} = 1.87\text{ V}$  (final stage).

Test signal: pulsed CW.

- (1)  $f = 1805\text{ MHz}$
- (2)  $f = 1840\text{ MHz}$
- (3)  $f = 1880\text{ MHz}$

**Fig 11. Power gain as a function of output power; typical values**

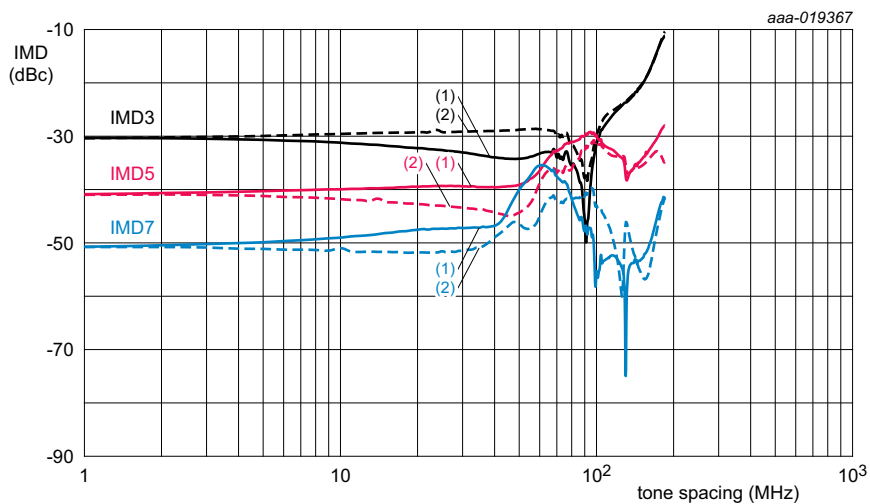


$T_{case} = 25\text{ }^{\circ}\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  
 $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  
 $V_{GS} = 1.87\text{ V}$  (final stage).

Test signal: pulsed CW.

- (1)  $f = 1805\text{ MHz}$
- (2)  $f = 1840\text{ MHz}$
- (3)  $f = 1880\text{ MHz}$

**Fig 12. Normalized phase response as a function of output power; typical values**

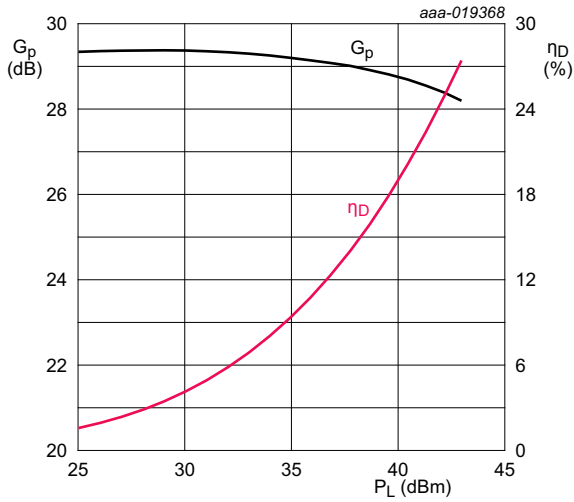


$T_{case} = 25\text{ }^{\circ}\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  $V_{GS} = 1.87\text{ V}$  (final stage).

Test signal: 2-tone CW;  $f_c = 1840\text{ MHz}$ .

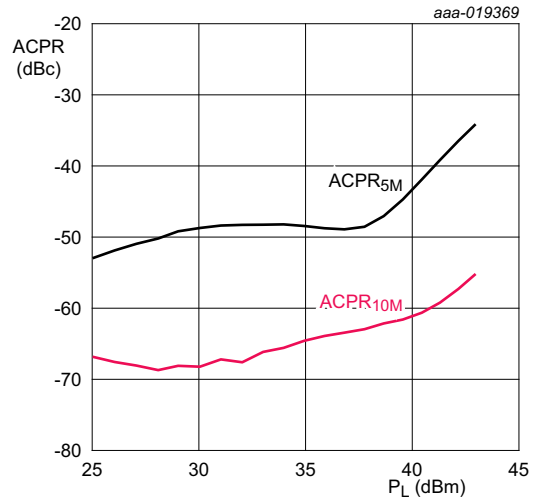
- (1) IMD low
- (2) IMD high

**Fig 13. Intermodulation distortion as a function of tone spacing; typical values**



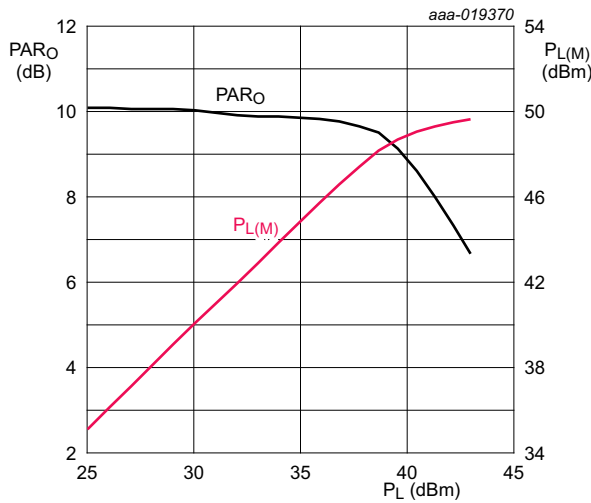
$T_{case} = 25\text{ }^\circ\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  $f = 1840\text{ MHz}$ ;  
 $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  
 $V_{GS} = 1.87\text{ V}$  (final stage).  
 Test signal: 1-carrier W-CDMA; test model 1; 64 DPCH;  
 PAR = 9.9 dB at 0.01 % probability CCDF.

**Fig 14. Power gain and drain efficiency as function of output power; typical values**



$T_{case} = 25\text{ }^\circ\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  $f = 1840\text{ MHz}$ ;  
 $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  
 $V_{GS} = 1.87\text{ V}$  (final stage).  
 Test signal: 1-carrier W-CDMA; test model 1; 64 DPCH;  
 PAR = 9.9 dB at 0.01 % probability CCDF.

**Fig 15. Adjacent channel power ratio as a function of output power; typical values**



$T_{case} = 25\text{ }^\circ\text{C}$ ;  $V_{DS} = 32\text{ V}$ ;  $f = 1840\text{ MHz}$ ;  $I_{Dq1} + I_{Dq2} = 272\text{ mA}$  (driver and final stages; valid for both sections A and B);  
 $V_{GS} = 2.07\text{ V}$  (driver stage);  $V_{GS} = 1.87\text{ V}$  (final stage).  
 Test signal: 1-carrier W-CDMA; test model 1; 64 DPCH; PAR = 9.9 dB at 0.01 % probability CCDF.

**Fig 16. Output peak-to-average ratio and peak output power as function of output power; typical values**

9. Package outline

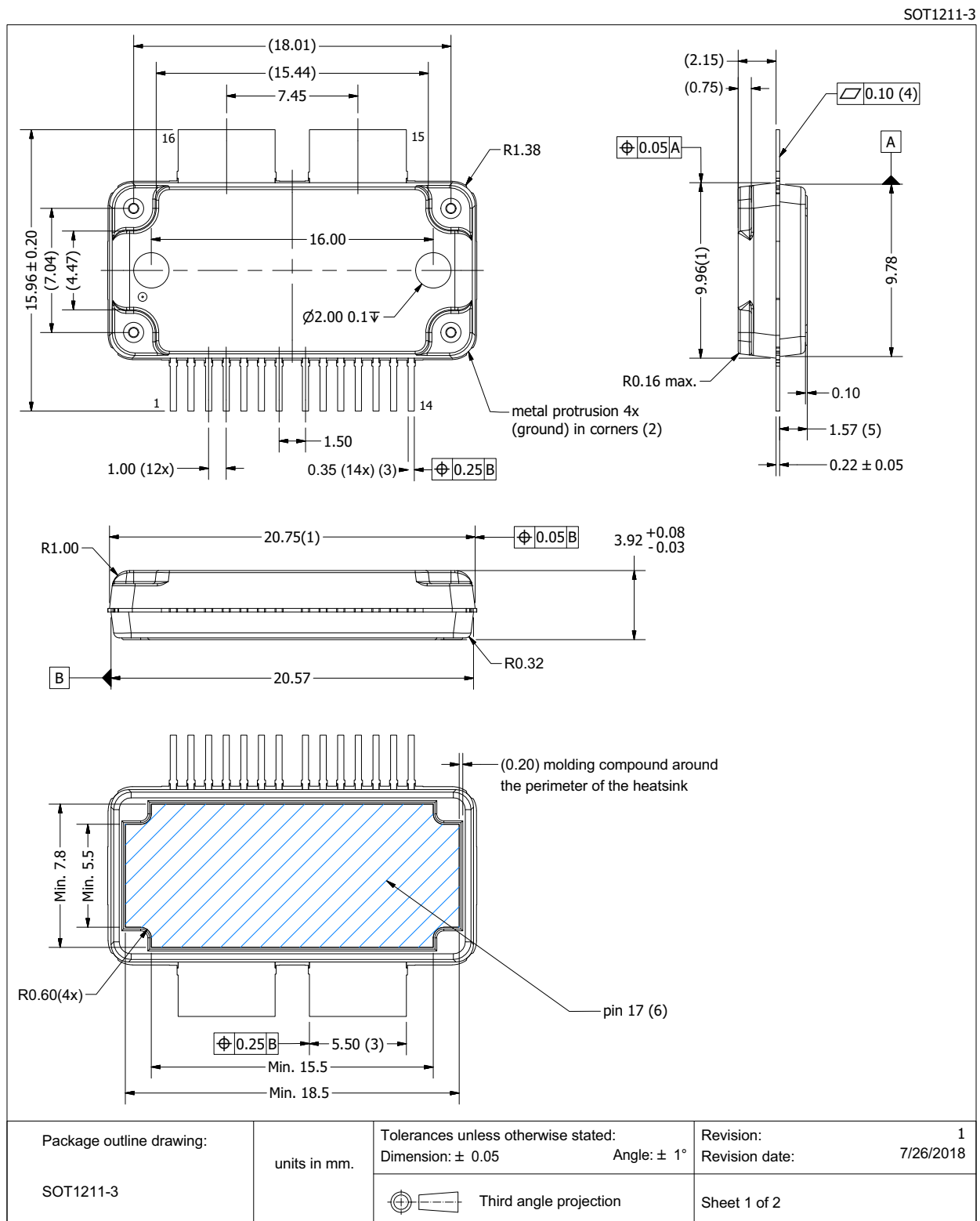
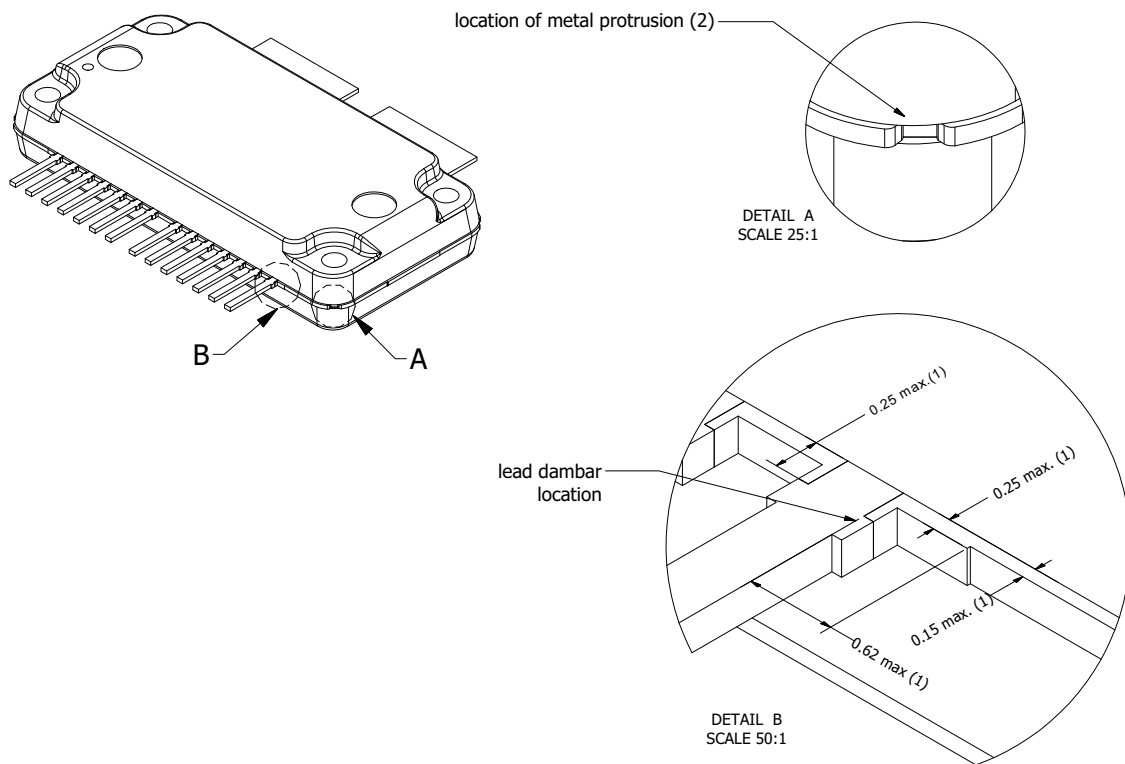


Fig 17. Package outline SOT1211-3 (sheet 1 of 2)

SOT1211-3

Drawing Notes	
Items	Description
(1)	Dimensions are excluding mold protrusion. Areas located adjacent to the leads have a maximum mold protrusion of 0.25 mm (per side) and 0.62 mm max. in length. In between the 14 leads the protrusion is 0.25 mm. max. At all other areas the mold protrusion is maximum 0.15 mm per side. See also detail B.
(2)	The metal protrusion (tie bars) in the corner will not stick out of the molding compound protrusions (detail A).
(3)	The lead dambar (metal) protrusions are not included. Add 0.14 mm max to the total lead dimension at the dambar location.
(4)	The lead coplanarity over all leads is 0.1 mm maximum.
(5)	Dimension is measured 0.5 mm from the edge of the top package body.
(6)	The hatched area indicates the exposed metal heatsink.
(7)	The leads and exposed heatsink are plated with matte Tin (Sn).




Package outline drawing:	units in mm.	Tolerances unless otherwise stated: Dimension: $\pm 0.05$ Angle: $\pm 1^\circ$	Revision: 1 Revision date: 7/26/2018
SOT1211-3		 Third angle projection	Sheet 2 of 2

Fig 18. Package outline SOT1211-3 (sheet 2 of 2)

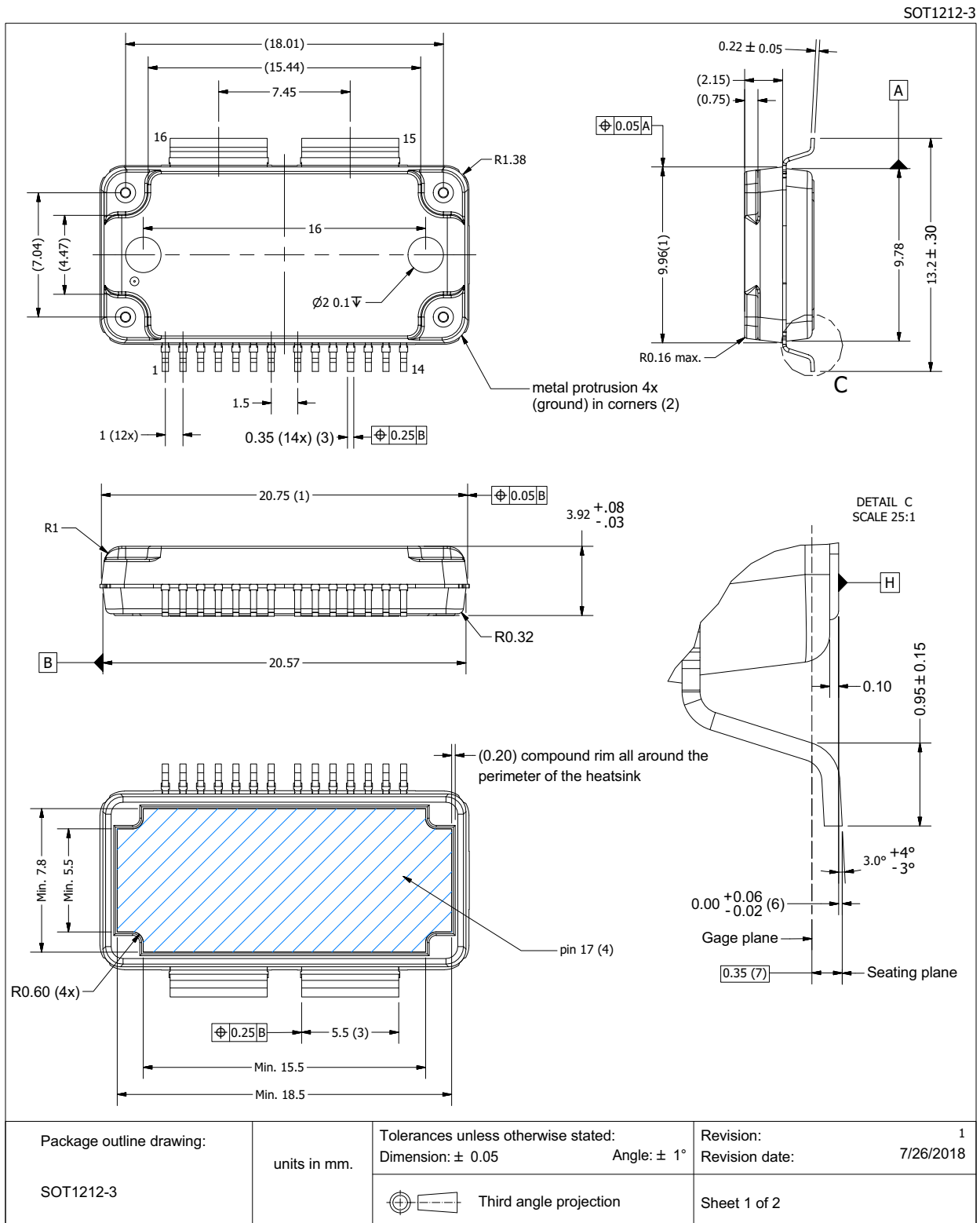
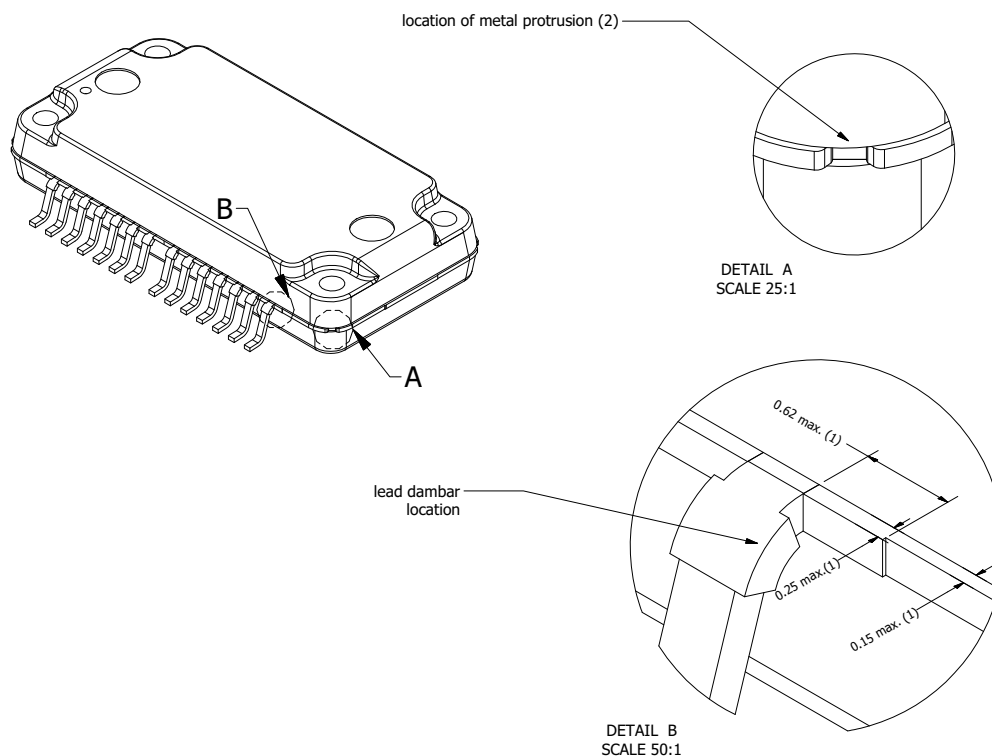


Fig 19. Package outline SOT1212-3 (sheet 1 of 2)

SOT1212-3

Drawing Notes	
Items	Description
(1)	Dimensions are excluding mold protrusion. Areas located adjacent to the leads have a maximum mold protrusion of 0.25 mm (per side) and 0.62 mm max. in length. In between the 14 leads the protrusion is 0.25 mm max. At all other areas the mold protrusion is maximum 0.15 mm per side. See also detail B.
(2)	The metal protrusion (tie bars) in the corner will not stick out of the molding compound protrusions (detail A).
(3)	The lead dambar (metal) protrusions are not included. Add 0.14 mm max to the total lead dimension at the dambar location.
(4)	The hatched area indicated the exposed heatsink.
(5)	The leads and exposed heatsink are plated with matte Tin (Sn).
(6)	Dimension is measured with respect to the bottom of the heatsink Datum H. Positive value means that the bottom of the heatsink is higher than the bottom of the lead.
(7)	Gage plane (foot length) to be measured from the seating plane.



Package outline drawing:	units in mm.	Tolerances unless otherwise stated: Dimension: $\pm 0.05$ Angle: $\pm 1^\circ$	Revision: 1 Revision date: 7/26/2018
SOT1212-3		Third angle projection	Sheet 2 of 2

Fig 20. Package outline SOT1212-3 (sheet 2 of 2)



## 10. 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 10. ESD sensitivity**

ESD model	Class
Charged Device Model (CDM); According to ANSI/ESDA/JEDEC standard JS-002	C1 <sup>[1]</sup>
Human Body Model (HBM); According to ANSI/ESDA/JEDEC standard JS-001	1C <sup>[2]</sup>

[1] CDM classification C1 is granted to any part that passes after exposure to an ESD pulse of 250 V.

[2] HBM classification 1C is granted to any part that passes after exposure to an ESD pulse of 1000 V.

## 11. Abbreviations

**Table 11. Abbreviations**

Acronym	Description
AM	Amplitude Modulation
3GPP	3rd Generation Partnership Project
CCDF	Complementary Cumulative Distribution Function
CW	Continuous Wave
DPCH	Dedicated Physical CHannel
ESD	ElectroStatic Discharge
GEN7	Seventh Generation
LDMOS	Laterally Diffused Metal Oxide Semiconductor
MMIC	Monolithic Microwave Integrated Circuit
MTF	Median Time to Failure
OBO	Output Back Off
PAR	Peak-to-Average Ratio
PM	Phase Modulation
RoHS	Restriction of Hazardous Substances
VSWR	Voltage Standing Wave Ratio
W-CDMA	Wideband Code Division Multiple Access

## 12. Revision history

Table 12. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BLM7G1822S-80PB_S-80PBG v.3	20180913	Product data sheet	-	BLM7G1822S-80PB_S-80PBG v.2
Modifications:	<ul style="list-style-type: none"> <li>• <a href="#">Figure 1 on page 2</a>: figure updated</li> <li>• <a href="#">Table 3 on page 3</a>: package outline versions changed to SOT1211-3 and SOT1212-3</li> <li>• <a href="#">Figure 3 on page 6</a>: figure updated</li> <li>• <a href="#">Figure 5 on page 8</a>: figure updated</li> <li>• <a href="#">Figure 6 on page 8</a>: figure updated</li> <li>• <a href="#">Figure 7 on page 8</a>: figure updated</li> <li>• <a href="#">Figure 8 on page 9</a>: figure updated</li> <li>• <a href="#">Table 9 on page 9</a>: typo corrected</li> <li>• <a href="#">Section 9 on page 13</a>: package outline versions changed from SOT1211-2 and SOT1212-2 to SOT1211-3 and SOT1212-3</li> <li>• <a href="#">Table 10 on page 17</a>: added table</li> </ul>			
BLM7G1822S-80PB_S-80PBG v.2	20150901	Product data sheet	-	BLM7G1822S-80PB_S-80PBG v.1
BLM7G1822S-80PB_S-80PBG v.1	20150824	Product data sheet	-	-

## 13. Legal information

### 13.1 Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	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>.

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Date of release: 13 September 2018  
 Document identifier: BLM7G1822S-80PB\_S-80PBG