Power LDMOS transistor

Rev. 3 — 1 September 2015

AMPLEON Product data sheet

1. Product profile

1.1 General description

A 600 W LDMOS RF power transistor for transmitter applications and industrial applications. The excellent ruggedness of this device makes it ideal for digital and analog transmitter applications.

Table 1. Application information

Test signal	f	P _{L(AV)}	P _{L(M)}	Gp	η _D	IMD3	
(MHz) (W) (W) (dB) (%) (d							
RF performance in a common source 860 MHz narrowband test circuit							
2-tone, class-AB	f ₁ = 860; f ₂ = 860.1	250	-	20.8	46	-32	
pulsed, class-AB	860	-	600	19.8	58	-	

1.2 Features and benefits

- Excellent ruggedness (VSWR ≥ 40 : 1 through all phases)
- Optimum thermal behavior and reliability, R_{th(i-c)} = 0.15 K/W
- High power gain
- High efficiency
- Designed for broadband operation (400 MHz to 1000 MHz)
- Internal input matching for high gain and optimum broadband operation
- Excellent reliability
- Easy power control
- Compliant to Directive 2002/95/EC, regarding Restriction of Hazardous Substances (RoHS)

1.3 Applications

- Communication transmitter applications
- Industrial applications

BLF10H6600P; BLF10H6600PS

Power LDMOS transistor

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2. Pinning information

Pin	Description	Simplified outline	Graphic symbol
BLF10H	6600P (SOT539A)		
1	drain1		
2	drain2		1
3	gate1		
4	gate2	3 4	3
5	source	[1]	

BLF10H6600PS (SOT539B)1drain12drain23gate14gate25source11 $\begin{array}{c} 1 \\ 3 \\ 4 \end{array}$ $\begin{array}{c} 2 \\ 3 \\ 4 \end{array}$ $\begin{array}{c} 3 \\ 4 \end{array}$ $\begin{array}{c} 2 \\ 3 \\ 4 \end{array}$ $\begin{array}{c} 3 \end{array}$ </tr

[1] Connected to flange.

3. Ordering information

Table 3. Ordering information

Type number	Package						
	Name	Description	Version				
BLF10H6600P	-	flanged balanced ceramic package; 2 mounting holes; 4 leads	SOT539A				
BLF10H6600PS	-	earless flanged balanced ceramic package; 4 leads	SOT539B				

4. Limiting values

Table 4. Limiting values

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

Symbol	Parameter	Conditions		Min	Мах	Unit
V _{DS}	drain-source voltage			-	110	V
V _{GS}	gate-source voltage			-0.5	+11	V
T _{stg}	storage temperature			-65	+150	°C
Tj	junction temperature		<u>[1]</u>	-	225	°C

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

5. Thermal characteristics

Table 5.	Thermal characteristics			
Symbol	Parameter	Conditions	Тур	Unit
R _{th(j-c)}	thermal resistance from junction to case	T_{case} = 80 °C; $P_{L(AV)}$ = 250 W	<u>[1]</u> 0.15	K/W
[4] D	is an and an day DE say different			

[1] R_{th(j-c)} is measured under RF conditions.

6. Characteristics

Table 6. DC characteristics

 $T_i = 25$ °C; per section unless otherwise specified.

Symbol	Parameter	Conditions		Min	Тур	Max	Unit
V _{(BR)DSS}	drain-source breakdown voltage	V_{GS} = 0 V; I_D = 2.4 mA	[1]	110	-	-	V
V _{GS(th)}	gate-source threshold voltage	V _{DS} = 10 V; I _D = 240 mA	[1]	1.4	1.9	2.4	V
I _{DSS}	drain leakage current	V_{GS} = 0 V; V_{DS} = 50 V		-	-	2.8	μA
I _{DSX}	drain cut-off current	$V_{GS} = V_{GS(th)} + 3.75 \text{ V};$ $V_{DS} = 10 \text{ V}$		-	36	-	A
I _{GSS}	gate leakage current	V_{GS} = 10 V; V_{DS} = 0 V		-	-	280	nA
R _{DS(on)}	drain-source on-state resistance	$V_{GS} = V_{GS(th)} + 3.75 V;$ $I_D = 8.5 A$	<u>[1]</u>	-	143	-	mΩ

[1] I_D is the drain current.

Table 7. AC characteristics

 $T_i = 25$ °C; per section unless otherwise specified.

Symbol	Parameter	Conditions	Min	Тур	Мах	Unit
C _{iss}	input capacitance	$V_{GS} = 0 V; V_{DS} = 50 V; f = 1 MHz$ [1]	-	220	-	pF
C _{oss}	output capacitance	V_{GS} = 0 V; V_{DS} = 50 V; f = 1 MHz	-	74	-	pF
C _{rss}	reverse transfer capacitance	V_{GS} = 0 V; V_{DS} = 50 V; f = 1 MHz	-	1.2	-	pF

[1] Capacitance values without internal matching.

Table 8.RF characteristics

RF characteristics in Ampleon production narrowband test circuit; $T_{case} = 25 \text{ }^{\circ}C$ unless otherwise specified.

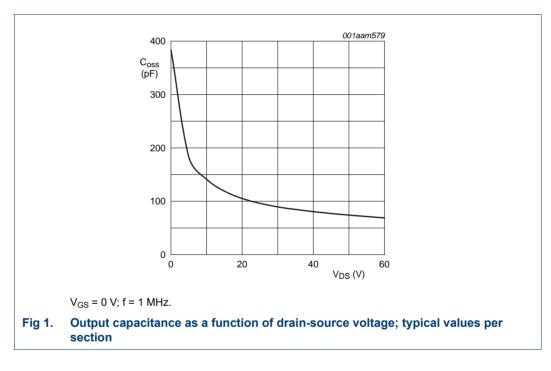
Symbol	Parameter	Conditions		Min	Тур	Мах	Unit
2-Tone,	class-AB						
V_{DS}	drain-source voltage			-	50	-	V
I _{Dq}	quiescent drain current		[1]	-	1.3	-	А
$P_{L(AV)}$	average output power	f ₁ = 860 MHz; f ₂ = 860.1 MHz		250	-	-	W
G _p	power gain	f ₁ = 860 MHz; f ₂ = 860.1 MHz		19.8	20.8	-	dB
η_D	drain efficiency	f ₁ = 860 MHz; f ₂ = 860.1 MHz		42	46	-	%
IMD3	third-order intermodulation distortion	f ₁ = 860 MHz; f ₂ = 860.1 MHz		-	-32	-28	dBc

Table 8. RF characteristics ... continued

RF characteristics in Ampleon production narrowband test circuit; $T_{case} = 25$ °C unless otherwise specified.

Symbol	Parameter	Conditions		Min	Тур	Мах	Unit
Pulsed,	class-AB						
V _{DS}	drain-source voltage			-	50	-	V
I _{Dq}	quiescent drain current		[1]	-	1.3	-	А
P _{L(M)}	peak output power	f = 860 MHz		-	600	-	W
G _p	power gain	f = 860 MHz		17.2	19.8	-	dB
η_D	drain efficiency	f = 860 MHz		54	58	-	%
t _p	pulse duration			-	100	-	μs
δ	duty cycle			-	20	-	%

[1] I_{Dq} for total device



7. Test information

7.1 Ruggedness in class-AB operation

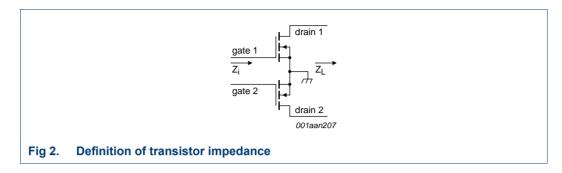
The BLF10H6600P and BLF10H6600PS are capable of withstanding a load mismatch corresponding to VSWR ≥ 40 : 1 through all phases under the following conditions: V_{DS} = 50 V; I_{Dq} = 1.3 A; P_L = 600 W (pulsed); f = 860 MHz.

7.2 Impedance information

Table 9. Typical push-pull impedance

Simulated Z_i and Z_L device impedance; impedance info at $V_{DS} = 50$ V and $P_{L(AV)} = 600$ W (pulsed CW). See Figure 2 for definition of transistor impedance.

NHzΩΩ3000.607 + j05.495 + j1.9363250.622 - j1.4415.324 + j2.0083500.639 - j1.1215.151 + j2.0653750.658 - j0.8264.977 + j2.1074000.679 - j0.5514.805 + j2.1364250.703 - j0.2914.634 + j2.1534500.73 - j0.0444.466 + j2.1574750.76 + j0.1944.301 + j2.1515000.793 + j0.4244.14 + j2.1345250.837 + j0.8693.833 + j2.0755750.919 + j1.0883.687 + j2.0336000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.922 + j1.6667501.49 + j2.6512.914 + j1.3498251.984 + j3.392.514 + j1.3498251.984 + j3.392.514 + j1.3498252.921 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.82310004.967 + j4.9271.96 + j0.733	f	Zi	ZL
325 $0.622 - j1.441$ $5.324 + j2.008$ 350 $0.639 - j1.121$ $5.151 + j2.065$ 375 $0.658 - j0.826$ $4.977 + j2.107$ 400 $0.679 - j0.551$ $4.805 + j2.136$ 425 $0.703 - j0.291$ $4.634 + j2.153$ 450 $0.73 - j0.044$ $4.466 + j2.157$ 475 $0.76 + j0.194$ $4.301 + j2.151$ 500 $0.793 + j0.424$ $4.14 + j2.134$ 525 $0.83 + j0.648$ $3.984 + j2.109$ 550 $0.872 + j0.869$ $3.833 + j2.075$ 575 $0.919 + j1.088$ $3.687 + j2.033$ 600 $0.972 + j1.305$ $3.546 + j1.985$ 625 $1.032 + j1.523$ $3.411 + j1.931$ 650 $1.101 + j1.741$ $3.281 + j1.871$ 675 $1.179 + j1.963$ $3.156 + j1.807$ 700 $1.268 + j2.187$ $3.036 + j1.738$ 725 $1.371 + j2.416$ $2.922 + j1.666$ 750 $1.49 + j2.651$ $2.813 + j1.591$ 775 $1.629 + j2.891$ $2.708 + j1.512$ 800 $1.792 + j3.138$ $2.609 + j1.432$ 825 $1.984 + j3.39$ $2.514 + j1.349$ 850 $2.212 + j3.649$ $2.423 + j1.264$ 875 $2.484 + j3.91$ $2.336 + j1.178$ 900 $2.812 + j4.17$ $2.254 + j1.091$ 925 $3.209 + j4.421$ $2.175 + j1.003$ 950 $3.689 + j4.648$ $2.1 + j0.913$ 975 $4.27 + j4.829$ $2.029 + j0.823$	MHz	Ω	Ω
350 $0.639 - j1.121$ $5.151 + j2.065$ 375 $0.658 - j0.826$ $4.977 + j2.107$ 400 $0.679 - j0.551$ $4.805 + j2.136$ 425 $0.703 - j0.291$ $4.634 + j2.153$ 450 $0.73 - j0.044$ $4.466 + j2.157$ 475 $0.76 + j0.194$ $4.301 + j2.151$ 500 $0.793 + j0.424$ $4.14 + j2.134$ 525 $0.83 + j0.648$ $3.984 + j2.109$ 550 $0.872 + j0.869$ $3.833 + j2.075$ 575 $0.919 + j1.088$ $3.687 + j2.033$ 600 $0.972 + j1.305$ $3.546 + j1.985$ 625 $1.032 + j1.523$ $3.411 + j1.931$ 650 $1.101 + j1.741$ $3.281 + j1.871$ 675 $1.179 + j1.963$ $3.156 + j1.807$ 700 $1.268 + j2.187$ $3.036 + j1.738$ 725 $1.371 + j2.416$ $2.922 + j1.666$ 750 $1.49 + j2.651$ $2.813 + j1.591$ 775 $1.629 + j2.891$ $2.708 + j1.512$ 800 $1.792 + j3.138$ $2.609 + j1.432$ 825 $1.984 + j3.39$ $2.514 + j1.349$ 850 $2.212 + j3.649$ $2.423 + j1.264$ 875 $2.484 + j3.91$ $2.336 + j1.178$ 900 $2.812 + j4.17$ $2.254 + j1.091$ 925 $3.209 + j4.421$ $2.175 + j1.003$ 950 $3.689 + j4.648$ $2.1 + j0.913$ 975 $4.27 + j4.829$ $2.029 + j0.823$	300	0.607 + j0	5.495 + j1.936
375 $0.658 - j0.826$ $4.977 + j2.107$ 400 $0.679 - j0.551$ $4.805 + j2.136$ 425 $0.703 - j0.291$ $4.634 + j2.153$ 450 $0.73 - j0.044$ $4.466 + j2.157$ 475 $0.76 + j0.194$ $4.301 + j2.151$ 500 $0.793 + j0.424$ $4.14 + j2.134$ 525 $0.83 + j0.648$ $3.984 + j2.109$ 550 $0.872 + j0.869$ $3.833 + j2.075$ 575 $0.919 + j1.088$ $3.687 + j2.033$ 600 $0.972 + j1.305$ $3.546 + j1.985$ 625 $1.032 + j1.523$ $3.411 + j1.931$ 650 $1.101 + j1.741$ $3.281 + j1.871$ 675 $1.179 + j1.963$ $3.156 + j1.807$ 700 $1.268 + j2.187$ $3.036 + j1.738$ 725 $1.371 + j2.416$ $2.922 + j1.666$ 750 $1.49 + j2.651$ $2.813 + j1.591$ 775 $1.629 + j2.891$ $2.708 + j1.512$ 800 $1.792 + j3.138$ $2.609 + j1.432$ 825 $1.984 + j3.39$ $2.514 + j1.349$ 850 $2.212 + j3.649$ $2.423 + j1.264$ 875 $2.484 + i3.91$ $2.336 + j1.178$ 900 $2.812 + j4.17$ $2.254 + j1.091$ 925 $3.209 + j4.421$ $2.175 + j1.003$ 950 $3.689 + j4.648$ $2.1 + j0.913$ 975 $4.27 + j4.829$ $2.029 + j0.823$	325	0.622 – j1.441	5.324 + j2.008
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425 $0.703 - j0.291$ $4.634 + j2.153$ 450 $0.73 - j0.044$ $4.666 + j2.157$ 475 $0.76 + j0.194$ $4.301 + j2.151$ 500 $0.793 + j0.424$ $4.14 + j2.134$ 525 $0.83 + j0.648$ $3.984 + j2.109$ 550 $0.872 + j0.869$ $3.833 + j2.075$ 575 $0.919 + j1.088$ $3.687 + j2.033$ 600 $0.972 + j1.305$ $3.546 + j1.985$ 625 $1.032 + j1.523$ $3.411 + j1.931$ 650 $1.101 + j1.741$ $3.281 + j1.871$ 675 $1.179 + j1.963$ $3.156 + j1.807$ 700 $1.268 + j2.187$ $3.036 + j1.738$ 725 $1.371 + j2.416$ $2.922 + j1.666$ 750 $1.49 + j2.651$ $2.813 + j1.591$ 775 $1.629 + j2.891$ $2.708 + j1.512$ 800 $1.792 + j3.138$ $2.609 + j1.432$ 825 $1.984 + j3.39$ $2.514 + j1.349$ 850 $2.212 + j3.649$ $2.423 + j1.264$ 875 $2.484 + j3.91$ $2.336 + j1.178$ 900 $2.812 + j4.17$ $2.254 + j1.091$ 925 $3.209 + j4.421$ $2.175 + j1.003$ 950 $3.689 + j4.648$ $2.1 + j0.913$ 975 $4.27 + j4.829$ $2.029 + j0.823$	375	0.658 – j0.826	4.977 + j2.107
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4750.76 + j0.1944.301 + j2.1515000.793 + j0.4244.14 + j2.1345250.83 + j0.6483.984 + j2.1095500.872 + j0.8693.833 + j2.0755750.919 + j1.0883.687 + j2.0336000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	425	0.703 – j0.291	4.634 + j2.153
5000.793 + j0.4244.14 + j2.1345250.83 + j0.6483.984 + j2.1095500.872 + j0.8693.833 + j2.0755750.919 + j1.0883.687 + j2.0336000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	450	0.73 – j0.044	4.466 + j2.157
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5500.872 + j0.8693.833 + j2.0755750.919 + j1.0883.687 + j2.0336000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	500	0.793 + j0.424	4.14 + j2.134
5750.919 + j1.0883.687 + j2.0336000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	525	0.83 + j0.648	3.984 + j2.109
6000.972 + j1.3053.546 + j1.9856251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	550	0.872 + j0.869	3.833 + j2.075
6251.032 + j1.5233.411 + j1.9316501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	575	0.919 + j1.088	3.687 + j2.033
6501.101 + j1.7413.281 + j1.8716751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	600	0.972 + j1.305	3.546 + j1.985
6751.179 + j1.9633.156 + j1.8077001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	625	1.032 + j1.523	3.411 + j1.931
7001.268 + j2.1873.036 + j1.7387251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	650	1.101 + j1.741	3.281 + j1.871
7251.371 + j2.4162.922 + j1.6667501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	675	1.179 + j1.963	3.156 + j1.807
7501.49 + j2.6512.813 + j1.5917751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	700	1.268 + j2.187	3.036 + j1.738
7751.629 + j2.8912.708 + j1.5128001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	725	1.371 + j2.416	2.922 + j1.666
8001.792 + j3.1382.609 + j1.4328251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	750	1.49 + j2.651	2.813 + j1.591
8251.984 + j3.392.514 + j1.3498502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	775	1.629 + j2.891	2.708 + j1.512
8502.212 + j3.6492.423 + j1.2648752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	800	1.792 + j3.138	2.609 + j1.432
8752.484 + j3.912.336 + j1.1789002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	825	1.984 + j3.39	2.514 + j1.349
9002.812 + j4.172.254 + j1.0919253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	850	2.212 + j3.649	2.423 + j1.264
9253.209 + j4.4212.175 + j1.0039503.689 + j4.6482.1 + j0.9139754.27 + j4.8292.029 + j0.823	875	2.484 + j3.91	2.336 + j1.178
950 3.689 + j4.648 2.1 + j0.913 975 4.27 + j4.829 2.029 + j0.823	900	2.812 + j4.17	2.254 + j1.091
975 4.27 + j4.829 2.029 + j0.823	925	3.209 + j4.421	2.175 + j1.003
	950	3.689 + j4.648	2.1 + j0.913
1000 4.967 + j4.927 1.96 + j0.733	975	4.27 + j4.829	2.029 + j0.823
	1000	4.967 + j4.927	1.96 + j0.733



7.3 Test circuit information

Table 10. List of components

For test circuit, see Figure 3, Figure 4 and Figure 5.

Component	Description	Value		Remarks
B1, B2	semi rigid coax	25 Ω; 49.5 mm		UT-090C-25 (EZ 90-25)
C1	multilayer ceramic chip capacitor	12 pF	<u>[1]</u>	
C2, C3, C4, C5, C6	multilayer ceramic chip capacitor	8.2 pF	<u>[1]</u>	
C7	multilayer ceramic chip capacitor	6.8 pF	[2]	
C8	multilayer ceramic chip capacitor	2.7 pF	[2]	
C9	multilayer ceramic chip capacitor	2.2 pF	[2]	
C10, C13, C14	multilayer ceramic chip capacitor	100 pF	<u>[3]</u>	
C11, C12	multilayer ceramic chip capacitor	10 pF	[2]	
C15, C16	multilayer ceramic chip capacitor	4.7 μF, 50 V		Kemet C1210X475K5RAC-TU or capacitor of same quality.
C17, C18, C23, C24	multilayer ceramic chip capacitor	100 pF	[2]	
C19, C20	multilayer ceramic chip capacitor	10 μF, 50 V		TDK C570X7R1H106KT000N or capacitor of same quality.
C21, C22	electrolytic capacitor	470 μF; 63 V		
C30	multilayer ceramic chip capacitor	10 pF	<u>[4]</u>	
C31	multilayer ceramic chip capacitor	9.1 pF	<u>[4]</u>	
C32	multilayer ceramic chip capacitor	3.9 pF	<u>[4]</u>	
C33, C34, C35	multilayer ceramic chip capacitor	100 pF	<u>[4]</u>	
C36, C37	multilayer ceramic chip capacitor	4.7 μF, 50 V		TDK C4532X7R1E475MT020U or capacitor of same quality.
L1	microstrip	-	[5]	(W \times L) 15 mm \times 13 mm
L2	microstrip	-	[5]	(W \times L) 5 mm \times 26 mm
L3, L32	microstrip	-	[5]	(W \times L) 2 mm \times 49.5 mm
L4	microstrip	-	[5]	(W \times L) 1.7 mm 3.5 mm
L5	microstrip	-	[5]	(W \times L) 2 mm \times 9.5 mm
L30	microstrip	-	[5]	(W \times L) 5 mm \times 13 mm
L31	microstrip	-	[5]	(W \times L) 2 mm \times 11 mm
L33	microstrip	-	[5]	(W \times L) 2 mm \times 3 mm
R1, R2	wire resistor	10 Ω		

Table 10. List of components ...continued

For test circuit, see Figure 3, Figure 4 and Figure 5.

Component	Description	Value	Remarks
R3, R4	SMD resistor	5.6 Ω	0805
R5, R6	wire resistor	100 Ω	
R7, R8	potentiometer	10 kΩ	

[1] American technical ceramics type 800R or capacitor of same quality.

[2] American technical ceramics type 800B or capacitor of same quality.

[3] American technical ceramics type 180R or capacitor of same quality.

[4] American technical ceramics type 100A or capacitor of same quality.

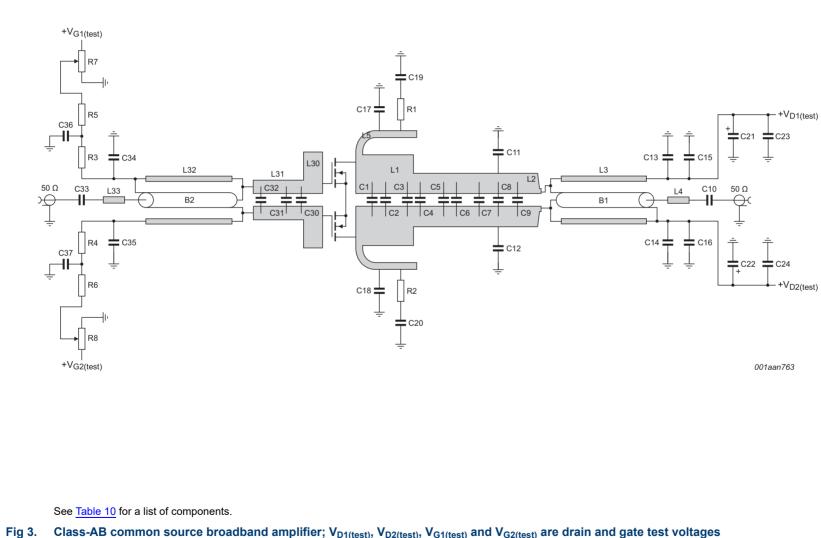
[5] Printed-Circuit Board (PCB): Taconic RF35; ε_r = 3.5 F/m; height = 0.762 mm; Cu (top/bottom metallization); thickness copper plating = 35 μ m.



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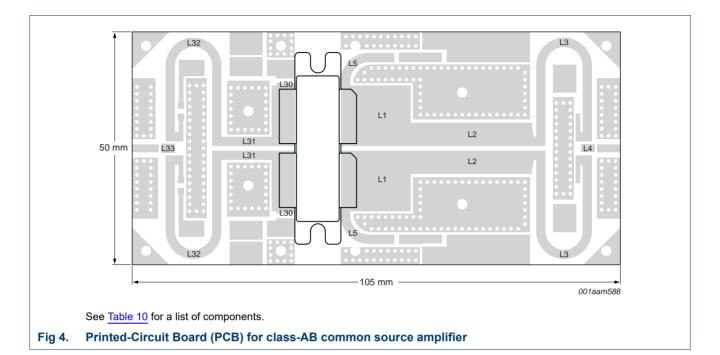
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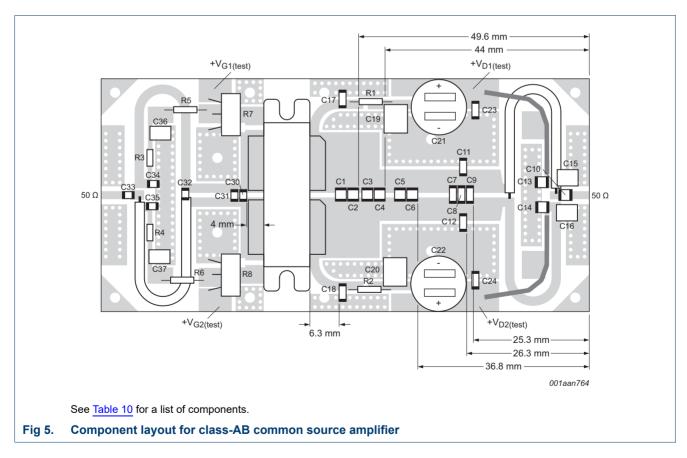
Class-AB common source broadband amplifier; V_{D1(test)}, V_{D2(test)}, V_{G1(test)} and V_{G2(test)} are drain and gate test voltages



BLF10H6600P; BLF10H6600PS

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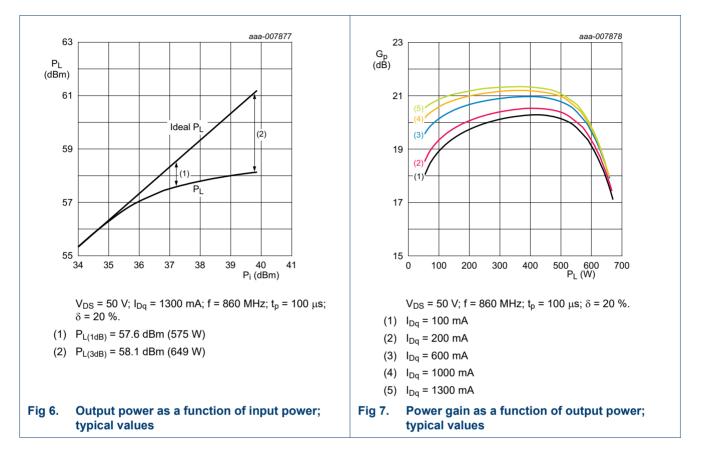




Power LDMOS transistor

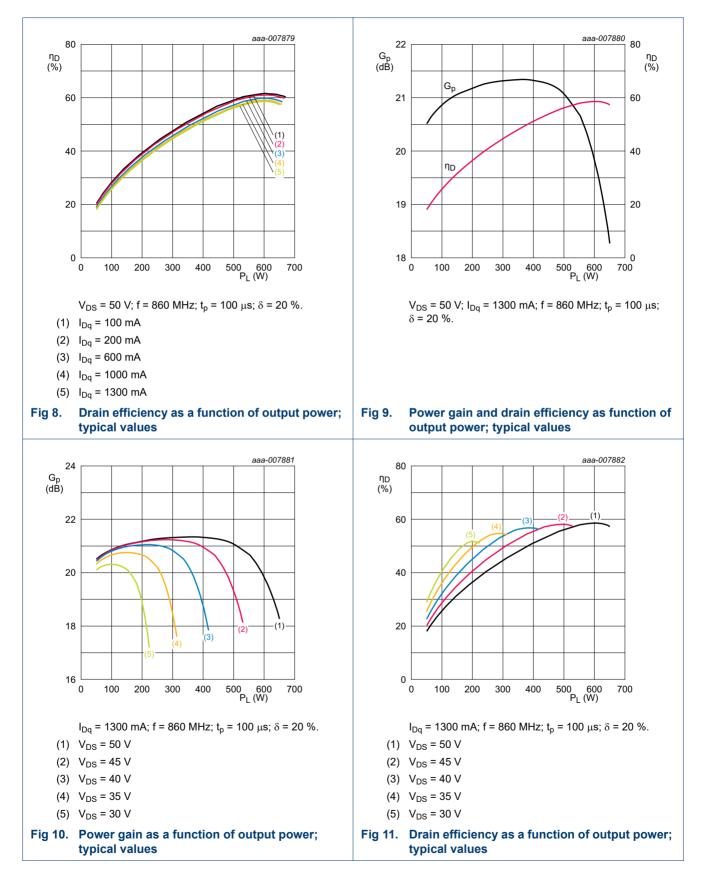
7.4 Graphical data

7.4.1 Pulsed



BLF10H6600P; BLF10H6600PS

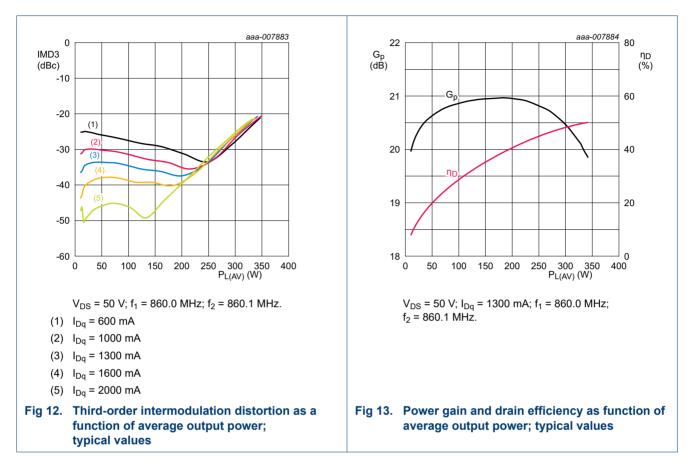
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BLF10H6600P_BLF10H6600PS#3

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7.4.2 2-Tone CW

BLF10H6600P; BLF10H6600PS

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8. Package outline

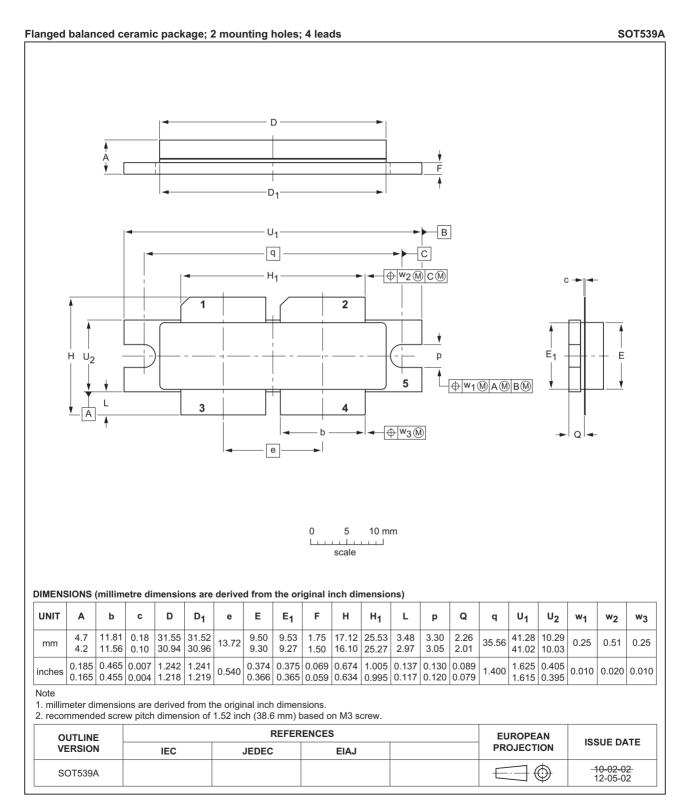


Fig 14. Package outline SOT539A

Power LDMOS transistor

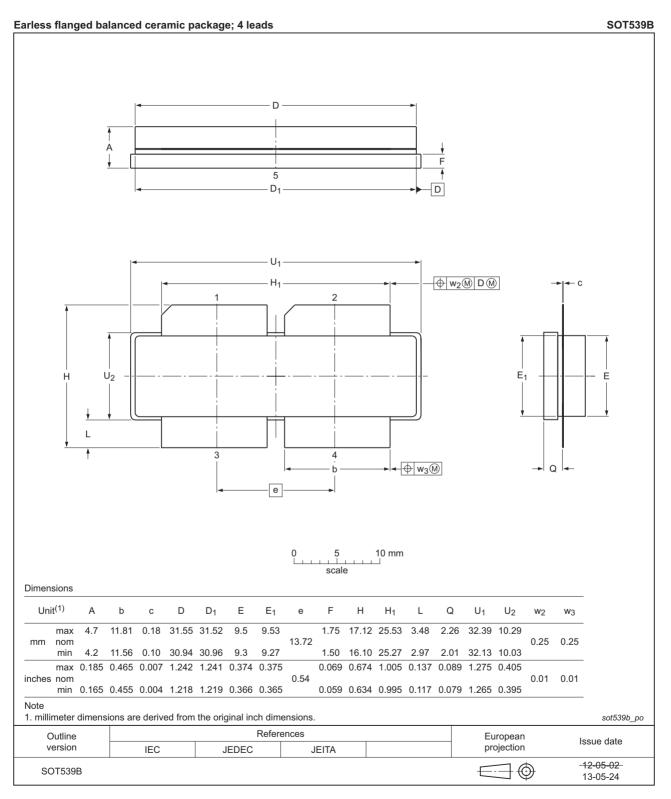


Fig 15. Package outline SOT539B

9. Handling information

equivalent standards.

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

10. Abbreviations

Table 11.	Abbreviations
Acronym	Description
CCDF	Complementary Cumulative Distribution Function
CW	Continuous Wave
LDMOS	Laterally Diffused Metal-Oxide Semiconductor
SMD	Surface Mounted Device
VSWR	Voltage Standing-Wave Ratio

11. Revision history

Table 12. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BLF10H6600P_BLF10H6600PS#3	20150901	Product data sheet	-	BLF10H6600P_BLF1 0H6600PS v.2
Modifications:	• The format of this document has been redesigned to comply with the new identity guidelines of Ampleon.			
	 Legal texts 	have been adapted to the	e new company na	me where appropriate.
BLF10H6600P_BLF10H6600PS v.2	20130620	Product data sheet	-	BLF0510H6600P v.1
BLF0510H6600P v.1	20121009	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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