Contents

1 Maximum ratings

(T_{CASE}=25°C)

Table 2. Absolute maximum ratings (T_{CASE}=25°C)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-source voltage	25	V
V_{GS}	Gate-source volatge	-0.5 to+15	V
I_D	Drain current	4	A
P_{DISS}	Power dissipation (@T_C = 70°C)	19.5	W
T_{stg}	Storage temperature	– 65 to +150	°C
T_j	Operating junction temperature	150	°C

Table 3. Thermal data

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction-case thermal resistance	4.1	°C/W

2 Electrical specification

(T_{CASE}=25°C)

Table 4. Static

Symbol	Test conditions	Min.	Typ.	Max.	Unit
I_{DSS}	V_{GS}=0V, V_{DS}=25V			1	µA
I_{GSS}	V_{GS}=5V, V_{DS}=0V			1	µA
$V_{GS(Q)}$	V_{DS}=10V, I_D=50mA	2.0		3.3	V
$V_{DS(ON)}$	V_{GS}=10V, I_D=0.5A		0.13	0.16	V
g_{fs}	V_{DS}=10V, I_D=3.2A		TBD		mho
C_{iss} C_{oss} C_{rss}	V_{GS}=0V, V_{DS}=7.5V, f=1MHz		54 43 4		pF pF pF

Table 5. Dynamic

Symbol	Test conditions	Min.	Typ.	Max.	Unit
P_{OUT}	V_{DD}=7.5V, I_{DQ}=50mA, f=500MHz	3		-	W
G_P	V_{DD}=7.5V, I_{DQ}=50mA, P_{OUT}=3W, f=500MHz	16	20	-	dB
η_D	V_{DD}=7.5V, I_{DQ}=50mA, P_{OUT}=3W, f=500MHz	50	55	-	%
Load mismatch	V_{DD}=9.5V, I_{DQ}=50mA, P_{OUT}=3W, f=500MHz All phase angles	20:1		-	VSWR

Table 6. ESD protection characteristics

Test conditions	Class
Human body model	2
Machine model	M3

Table 7. Moisture sensitivity level

Test methodology	Rating
J-STD-020B	MSL 3

3 Typical performances

Figure 2. Capacitance vs supply voltage

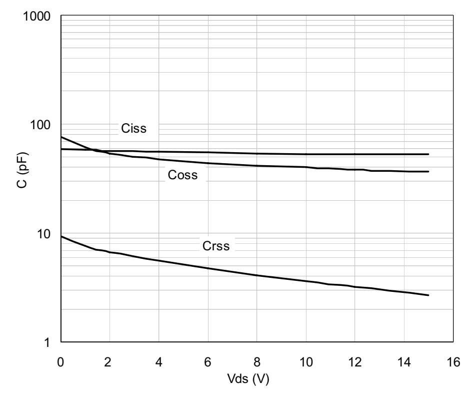


Figure 3. Output power vs input power

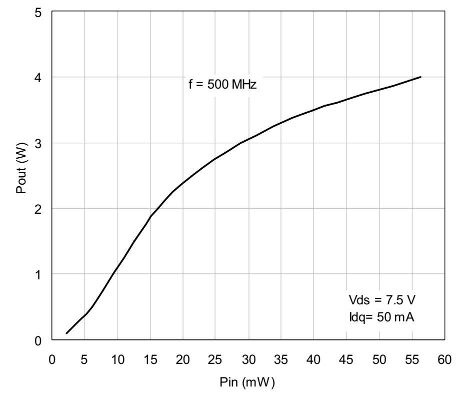


Figure 4. Power gain vs output power

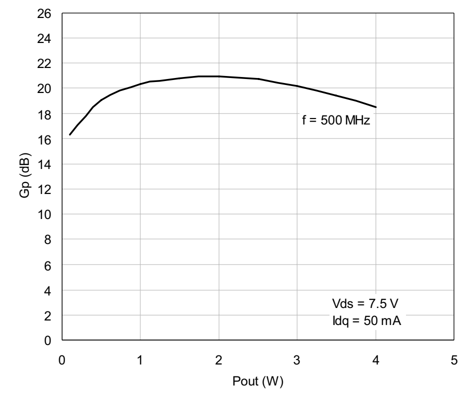


Figure 5. Efficiency vs output power

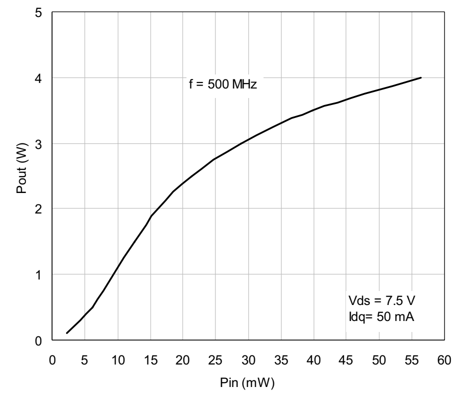


Figure 6. Output power vs bias current

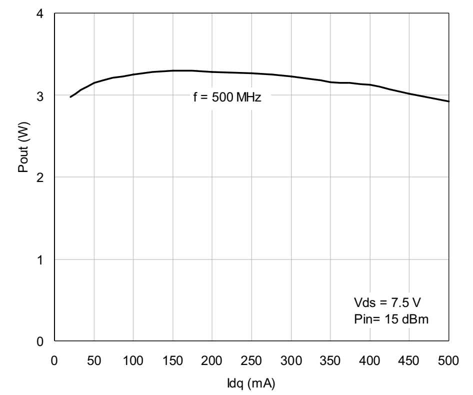


Figure 7. Output power vs gate-source voltage

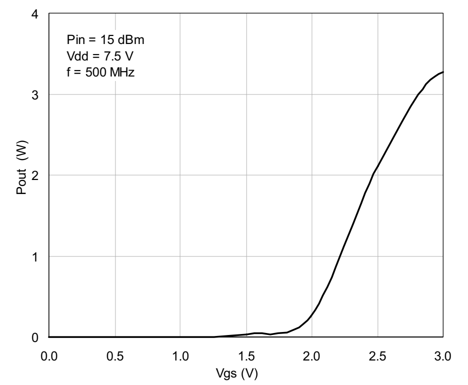


Figure 8. Efficiency vs bias current

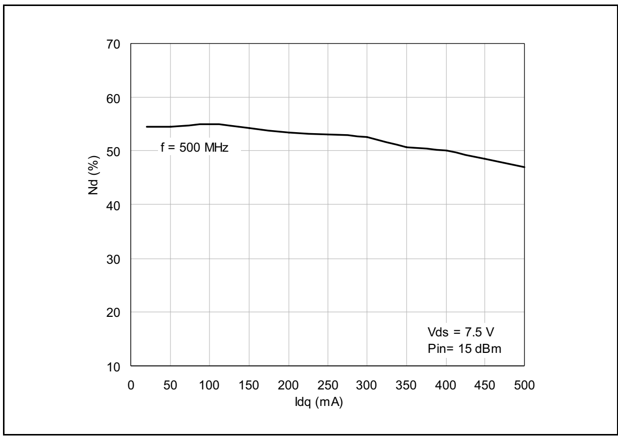
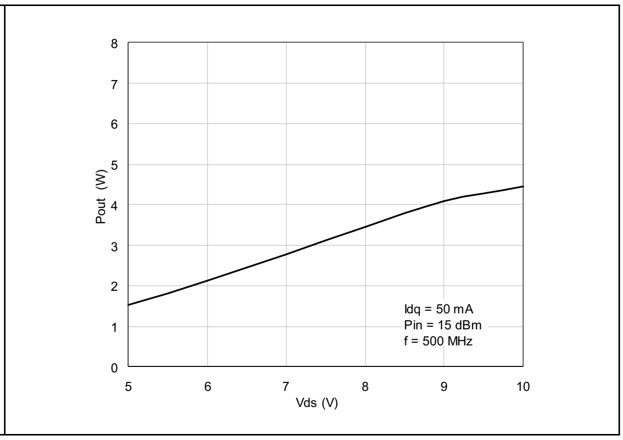


Figure 9. Output power vs supply voltage



3.1 Typical performance (broadband)

Figure 10. Power gain vs frequency

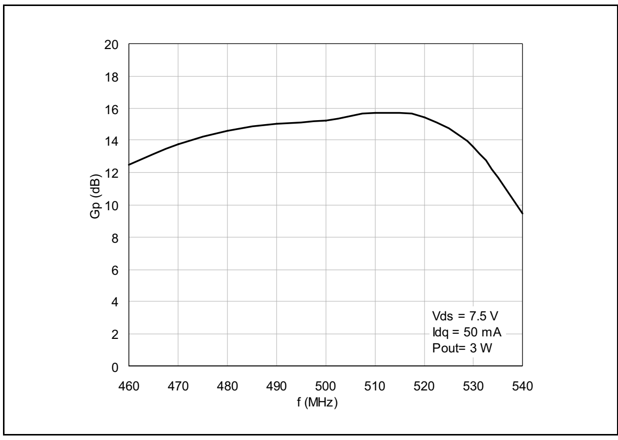


Figure 11. Efficiency vs frequency

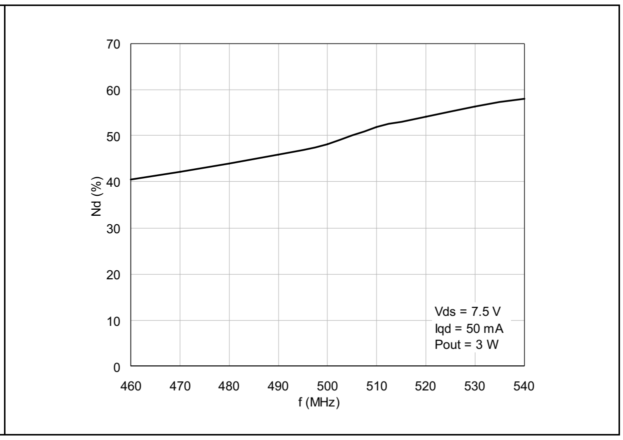
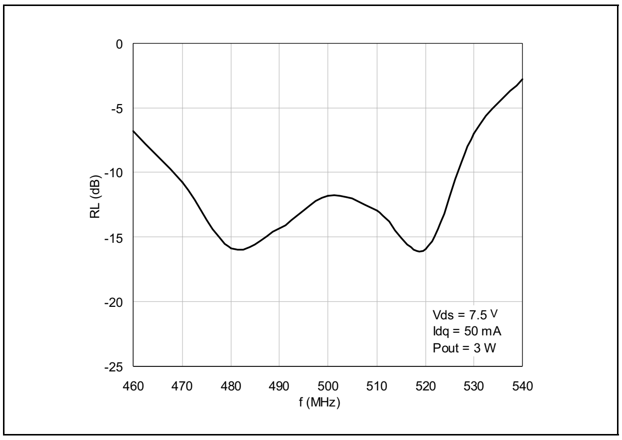


Figure 12. Return loss vs frequency



4 Package mechanical data

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK is an ST trademark.

Table 8. PowerFLAT™ mechanical data

Dim.	mm			inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		0.90	1.00		0.035	0.039
A1		0.02	0.05		0.001	0.002
A3		0.24			0.009	
AA	0.15	0.25	0.35	0.006	0.01	0.014
b	0.43	0.51	0.58	0.017	0.020	0.023
c	0.64	0.71	0.79	0.025	0.028	0.031
D		5.00			0.197	
d		0.30			0.011	
E		5.00			0.197	
E2	2.49	2.57	2.64	0.098	0.101	0.104
e		1.27			0.050	
f		3.37			0.132	
g		0.74			0.03	
h		0.21			0.008	

Figure 13. PowerFLAT™ package dimensions

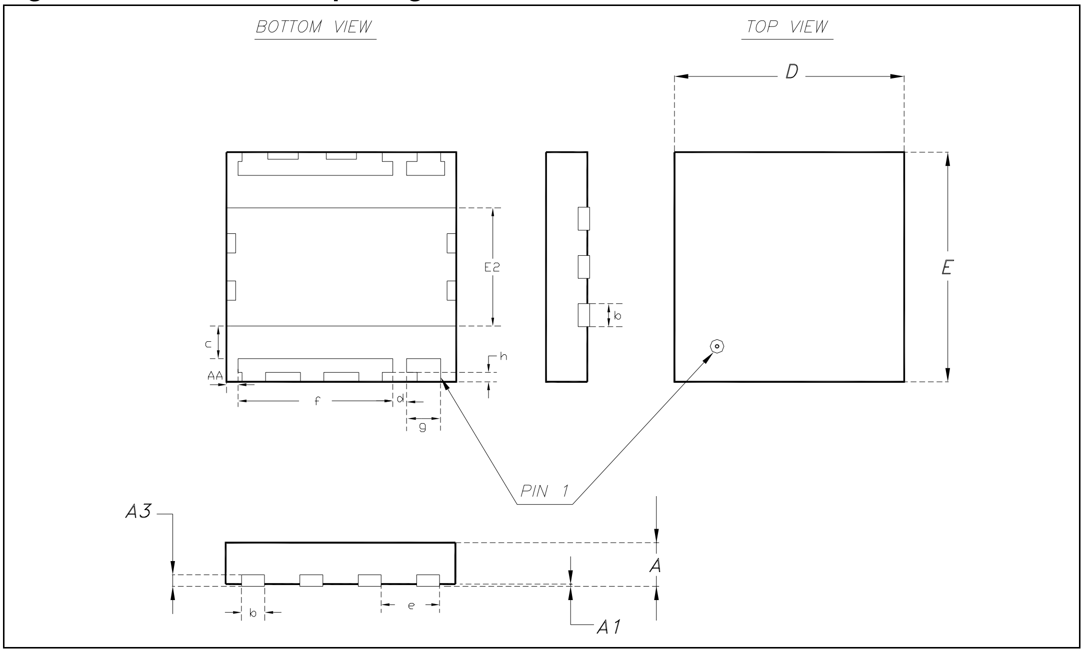


Table 9. PowerFLAT™ tape and reel dimensions

DIM.	mm.		
	Min.	Typ	Max.
Ao	5.15	5.25	5.35
Bo	5.15	5.25	5.35
Ko	1.0	1.1	1.2

Figure 14. PowerFLAT™ tape and reel

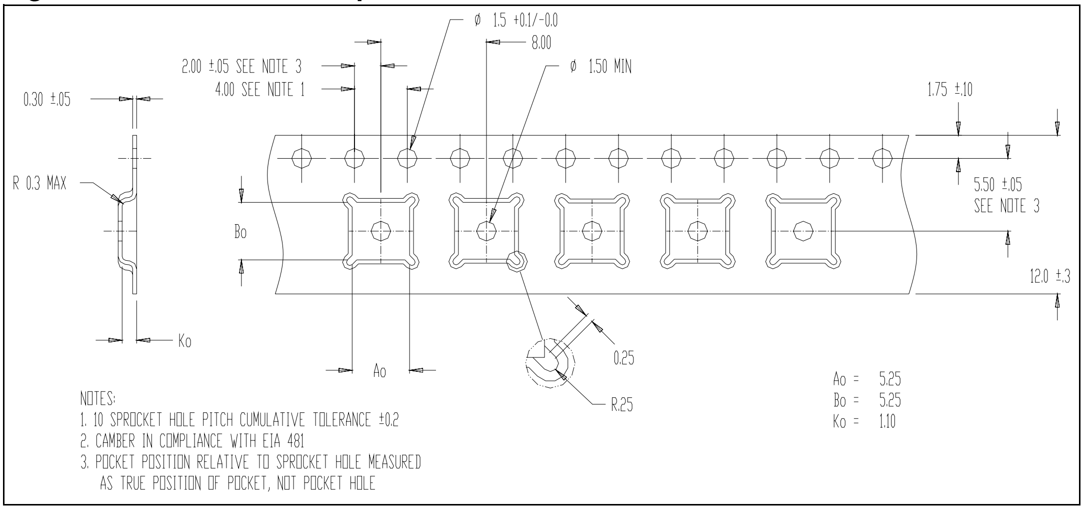
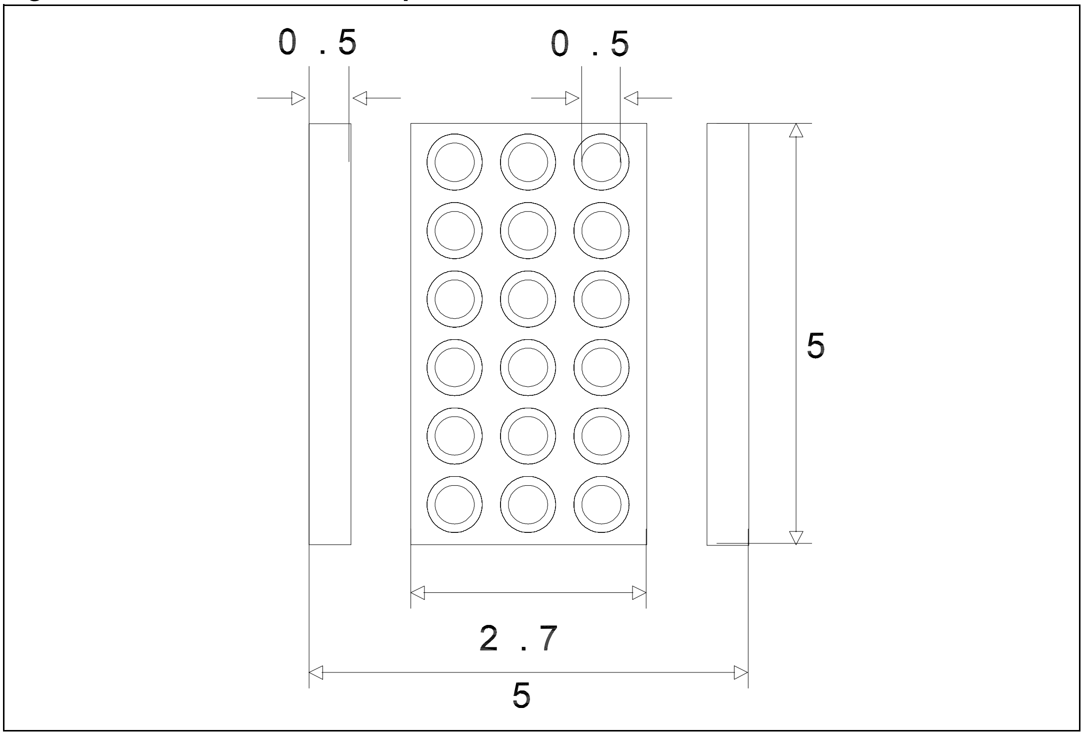


Figure 15. Recommended footprint



5 Revision history

Table 10. Document revision history

Date	Revision	Changes
04-Jan-2006	1	First Issue.
29-Apr-2011	2	Updated *Table 4*.
10-May-2011	3	Updated *Table 4*.

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