



SD3932

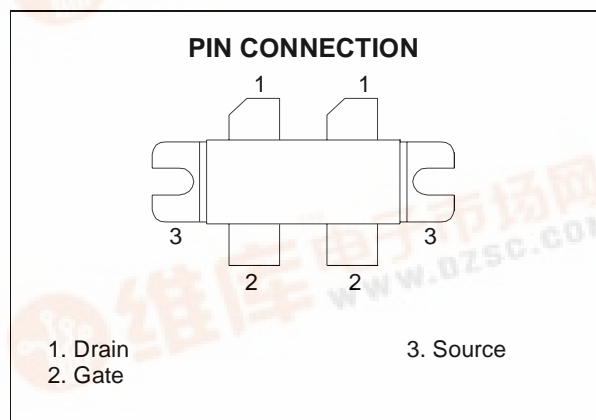
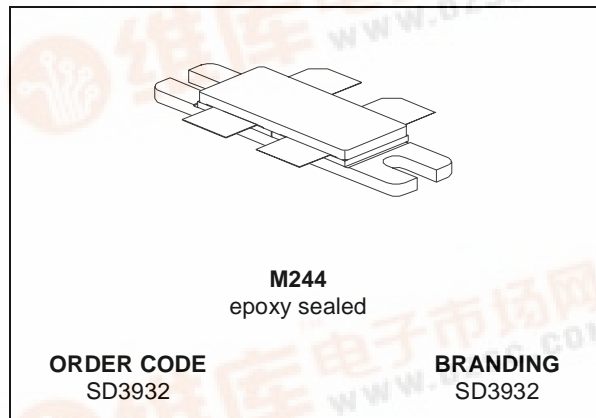
RF POWER TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETs

TARGET DATA

- GOLD METALLIZATION
- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 300 \text{ W MIN. WITH } 24 \text{ dB GAIN @ } 150 \text{ MHz}$

DESCRIPTION

The SD3932 is a gold metallized N-Channel MOS field-effect RF power transistor. It is intended for use in 100 V dc large signal applications up to 150 MHz.



ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25 \text{ }^\circ\text{C}$)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain Source Voltage	250	V
V_{DGR}	Drain-Gate Voltage ($R_{GS} = 1M\Omega$)	250	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current	20	A
P_{DISS}	Power Dissipation	500	W
T_j	Max. Operating Junction Temperature	200	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65 to +150	$^\circ\text{C}$

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	0.35	$^\circ\text{C/W}$
---------------	-----------------------------------	------	--------------------



SD3932**ELECTRICAL SPECIFICATION** ($T_{CASE} = 25\text{ }^{\circ}\text{C}$)**STATIC** (per section)

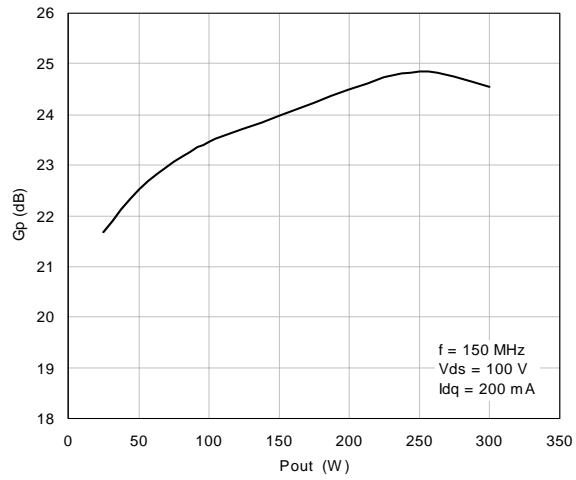
Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$	$I_{DS} = 100\text{ mA}$		250			V
I_{DSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 100\text{ V}$				5	mA
I_{GSS}	$V_{GS} = 20\text{ V}$	$V_{DS} = 0\text{ V}$				5	μA
$V_{GS(Q)}$	$V_{DS} = 10\text{ V}$	$I_D = 250\text{ mA}$		1.5		4.0	V
$V_{DS(ON)}$	$V_{GS} = 10\text{ V}$	$I_D = 5\text{ A}$				5	V
G_{FS}	$V_{DS} = 10\text{ V}$	$I_D = 2.5\text{ A}$		3			mho
C_{ISS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 100\text{ V}$	$f = 1\text{ MHz}$		649		pF
C_{OSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 100\text{ V}$	$f = 1\text{ MHz}$		134		pF
C_{RSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 100\text{ V}$	$f = 1\text{ MHz}$		6		pF

DYNAMIC

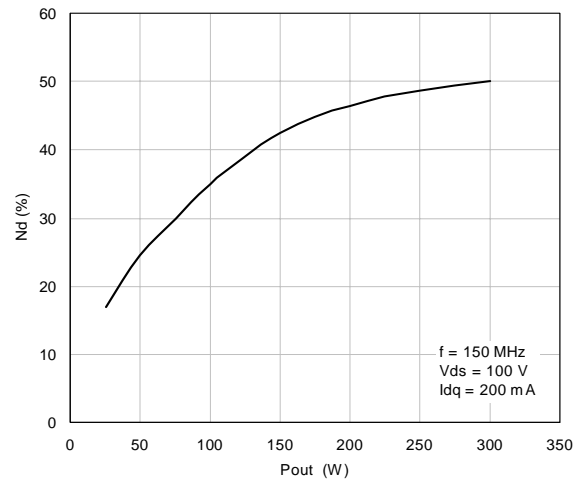
Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{OUT}	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$		$f = 150\text{ MHz}$	300			W
G_{PS}	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$	$P_{OUT} = 300\text{ W}$	$f = 150\text{ MHz}$		24		dB
η_D	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$	$P_{OUT} = 300\text{ W}$	$f = 150\text{ MHz}$		50		%
Load Mismatch	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$	$P_{OUT} = 300\text{ W}$	$f = 150\text{ MHz}$ All Phase Angles	10:1			VSWR

TYPICAL PERFORMANCE

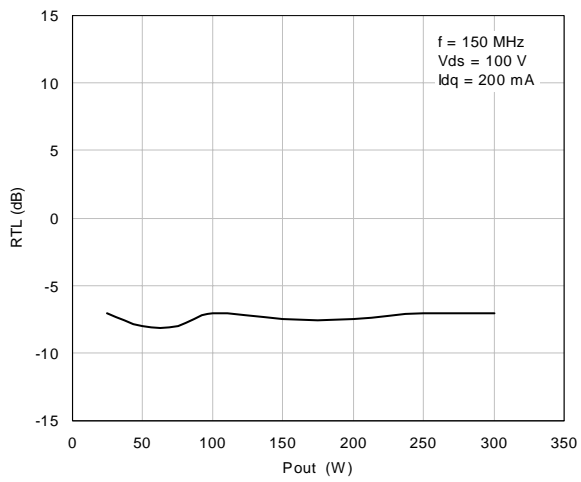
Power Gain Vs Output Power



Efficiency Vs Output Power

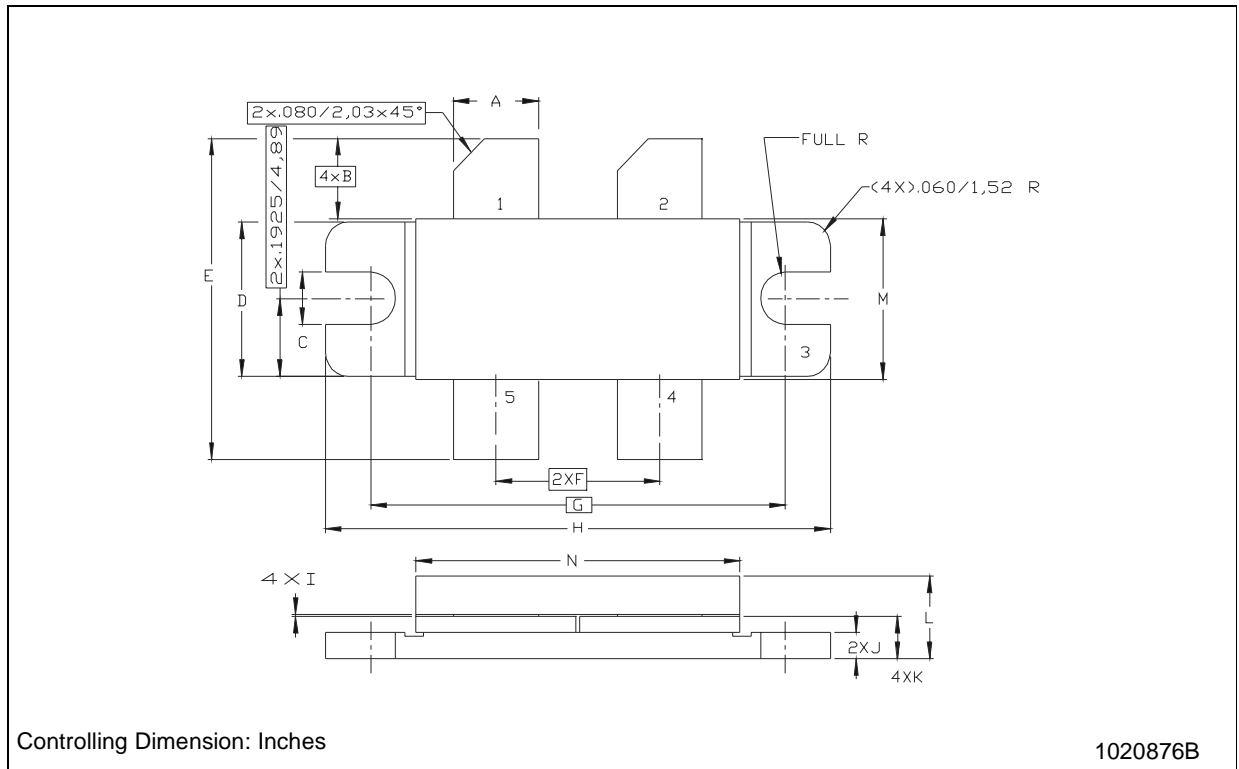


Input Return Loss Vs Output Power



M244 (.400 x .860 4/L BAL N/HERM W/FLG) MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A	5.59		5.84	0.220		0.230
B		5.08			0.200	
C	3.02		3.28	0.119		0.129
D	9.65		9.91	0.380		0.390
E	19.81		20.82	0.780		0.820
F	10.92		11.18	0.430		0.440
G		27.94			1.100	
H	33.91		34.16	1.335		1.345
I	0.10		0.15	0.004		0.006
J	1.52		1.78	0.060		0.070
K	2.59		2.84	0.102		0.112
L	4.83		5.84	0.190		0.230
M	10.03		10.34	0.395		0.407
N	21.59		22.10	0.850		0.870



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is registered trademark of STMicroelectronics
© 2003 STMicroelectronics - All Rights Reserved

All other names are the property of their respective owners.

STMicroelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan -
Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.
<http://www.st.com>