



SD3932

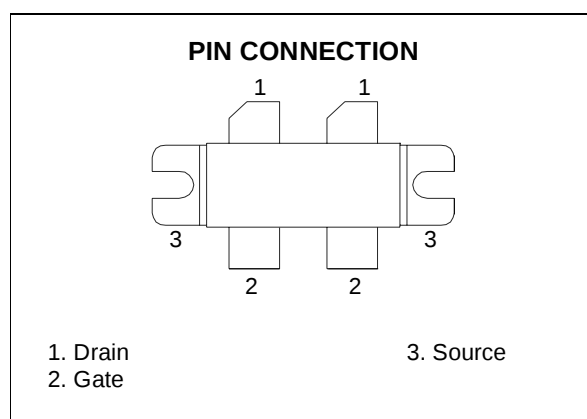
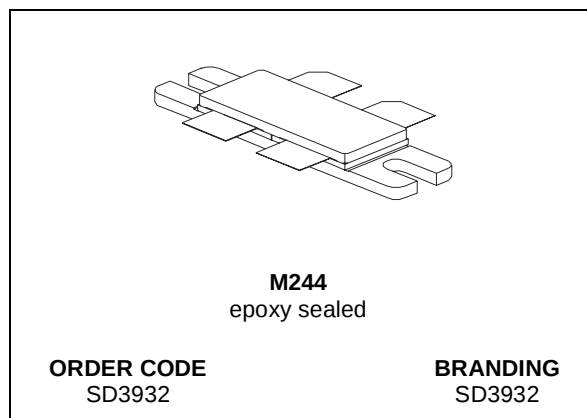
RF POWER TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETs

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 ($R_{GS} = 1\text{M}\Omega$)	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	$^{\circ}\text{C/W}$
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SD3932**ELECTRICAL SPECIFICATION** ($T_{CASE} = 25\text{ }^{\circ}\text{C}$)**STATIC** (per section)

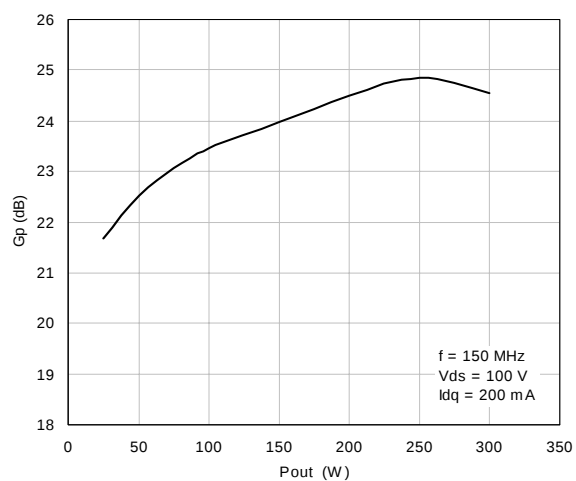
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$	$I_{DS} = 100\text{ mA}$	250			V
I_{DSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 100\text{ V}$			5	mA
I_{GSS}	$V_{GS} = 20\text{ V}$	$V_{DS} = 0\text{ V}$			5	μA
$V_{GS(Q)}$	$V_{DS} = 10\text{ V}$	$I_D = 250\text{ mA}$	1.5		4.0	V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

DYNAMIC

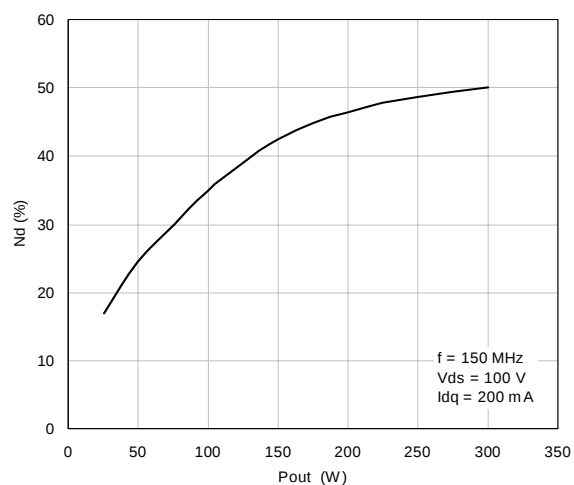
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
P_{OUT}	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$ $f = 150\text{ MHz}$	300			W
G_{PS}	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$ $P_{OUT} = 300\text{ W}$ $f = 150\text{ MHz}$		24		dB
η_D	$V_{DD} = 100\text{ V}$	$I_{DQ} = 200\text{ mA}$ $P_{OUT} = 300\text{ W}$ $f = 150\text{ MHz}$		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

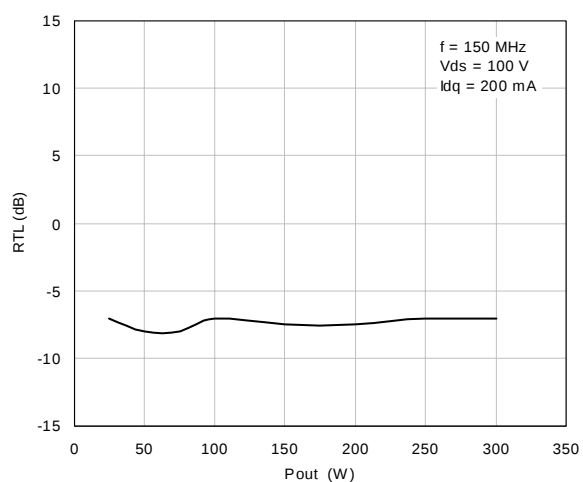
Power Gain Vs Output Power



Efficiency Vs Output Power

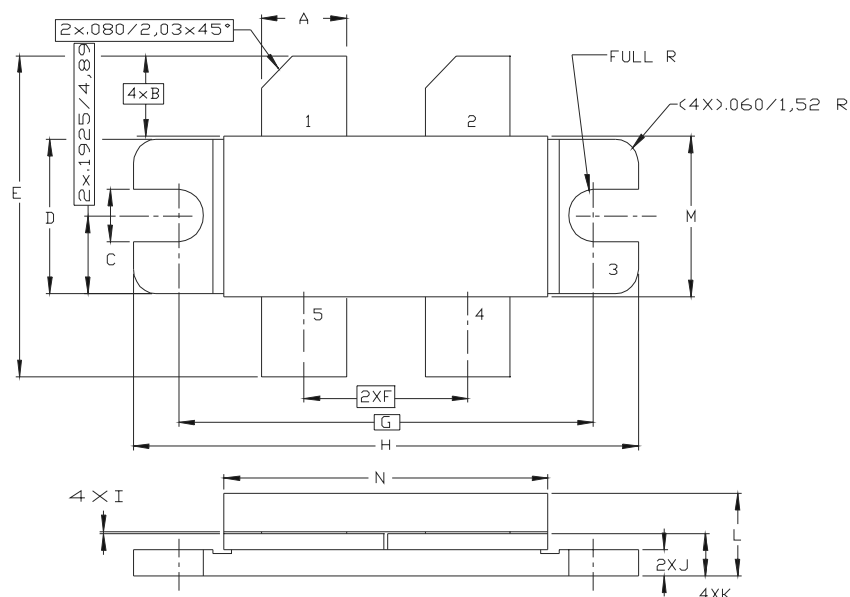


Input Return Loss Vs Output Power



SD3932**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



Controlling Dimension: Inches

1020876B

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