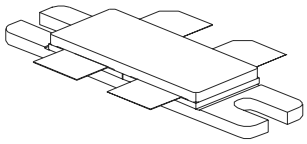
SD3932

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

TARGET DATA

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



M244
epoxy sealed

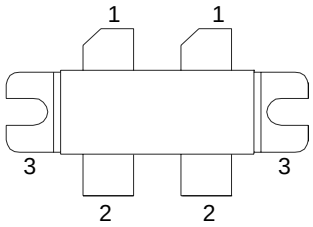
ORDER CODE SD3932

BRANDING SD3932

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.

PIN CONNECTION



1. Drain
2. Gate
3. Source

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25 °C)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain Source Voltage	250	V
V_{DGR}	Drain-Gate Voltage (R_{GS} = 1MΩ)	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	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	0.35	°C/W

ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

STATIC (per section)

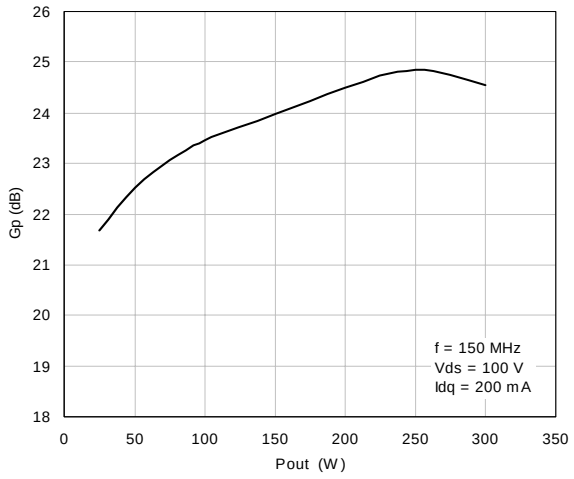
Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V	I_{DS} = 100 mA		250			V
I_{DSS}	V_{GS} = 0 V	V_{DS} = 100 V				5	mA
I_{GSS}	V_{GS} = 20 V	V_{DS} = 0 V				5	µA
$V_{GS(Q)}$	V_{DS} = 10 V	I_D = 250 mA		1.5		4.0	V
$V_{DS(ON)}$	V_{GS} = 10 V	I_D = 5 A				5	V
G_{FS}	V_{DS} = 10 V	I_D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

DYNAMIC

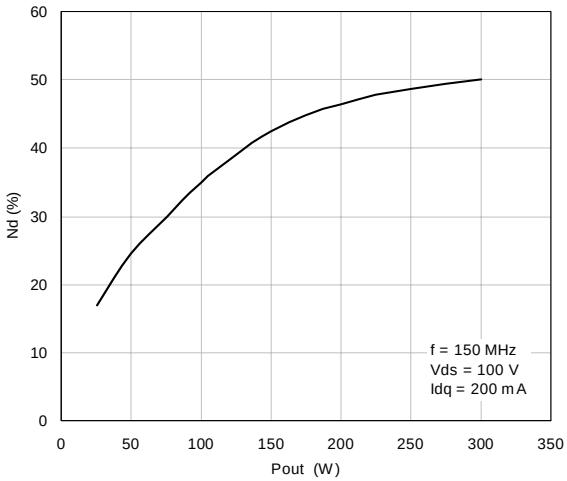
Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{OUT}	V_{DD} = 100 V	I_{DQ} = 200 mA		f = 150 MHz	300			W
G_{PS}	V_{DD} = 100 V	I_{DQ} = 200 mA	P_{OUT} = 300 W	f = 150 MHz		24		dB
η_D	V_{DD} = 100 V	I_{DQ} = 200 mA	P_{OUT} = 300 W	f = 150 MHz		50		%
Load Mismatch	V_{DD} = 100 V All Phase Angles	I_{DQ}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

TYPICAL PERFORMANCE

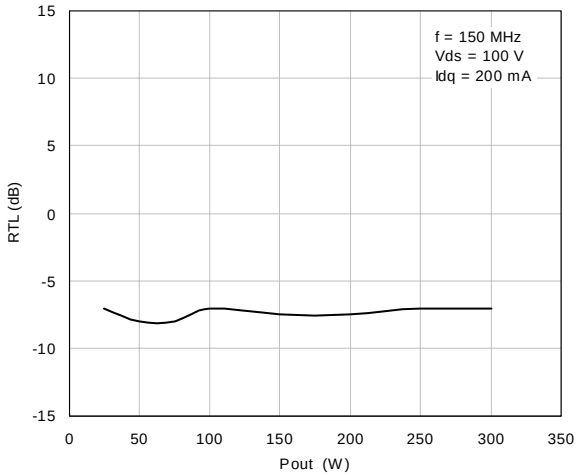
Power Gain Vs Output Power



Efficiency Vs Output Power

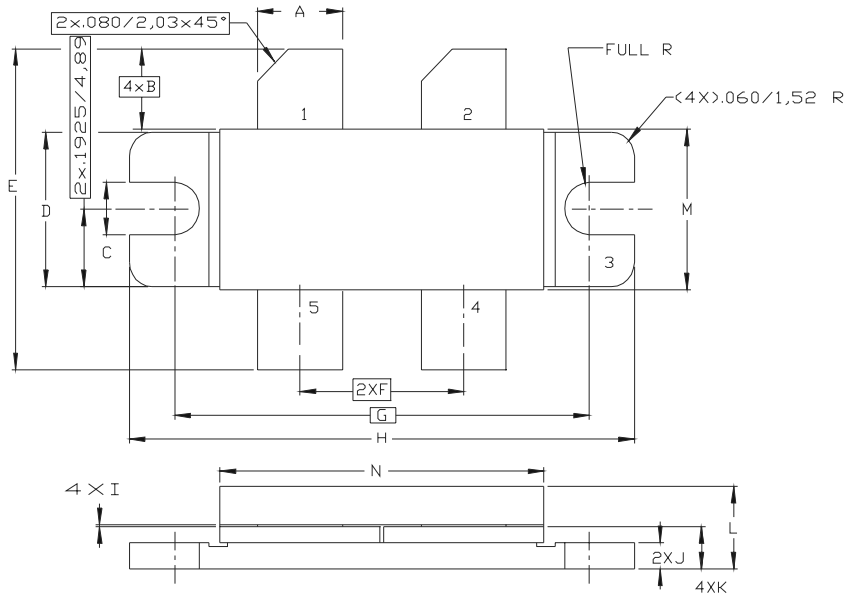


Input Return Loss Vs Output Power



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



Controlling Dimension: Inches

1020876B