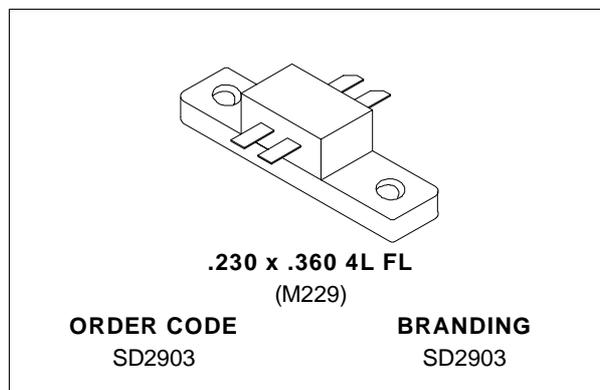


RF & MICROWAVE TRANSISTORS HF/VHF/UHF N-CHANNEL MOSFETS

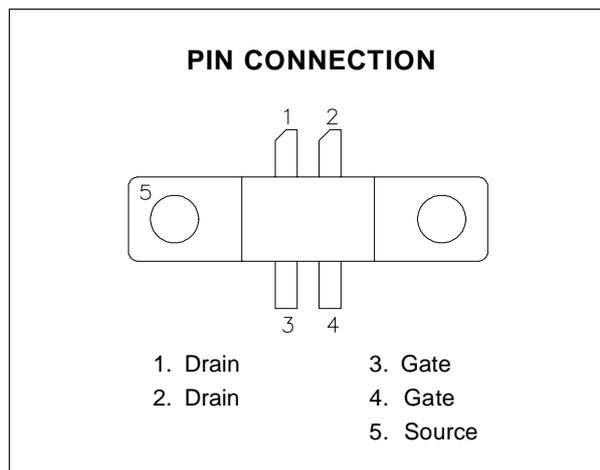
PRELIMINARY DATA

- 2 - 500 MHz
- 30 WATTS
- 28 VOLTS
- 13 dB MIN. AT 400 MHz
- CLASS A OR AB



DESCRIPTION

The SD2903 is a gold metallized N-channel MOS field effect RF power transistor. The SD2903 is intended for use in 28V DC large signal applications up to 400 MHz.



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

Symbol	Parameter	Value	Unit
V _{DSS}	Drain-Source Voltage	65	V
V _{DGR}	Drain-Gate Voltage (R _{GS} = 1.0 MΩ)	65	V
V _{GS}	Gate-Source Voltage	+/- 20	V
I _D	Drain Current	5.0	A
P _{DISS}	Power Dissipation (T _{heatsink} ≤ 25°C)	81.4	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	1.75	°C/W
R _{TH(c-s)}	Case-Heatsink Thermal Resistance	0.40	°C/W

ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC (per side)

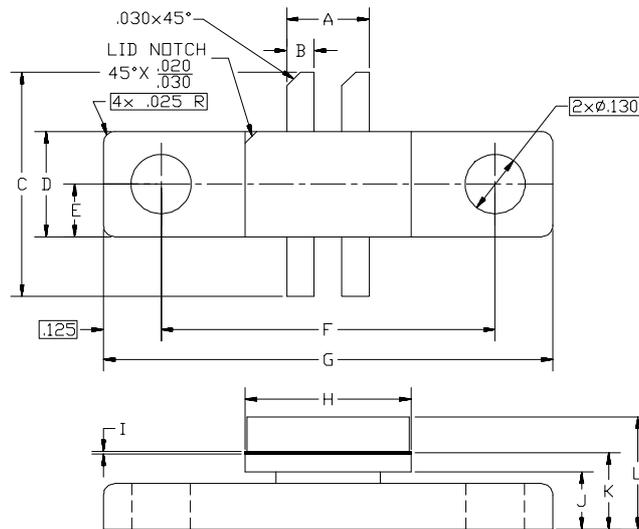
Symbol	Test Conditions		Value			Unit	
			Min.	Typ.	Max.		
$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}$	$I_{\text{DS}} = 15\text{mA}$	65	—	—	V	
I_{DSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	—	—	1.5	mA	
I_{GSS}	$V_{\text{GS}} = 20\text{V}$	$V_{\text{DS}} = 0\text{V}$	—	—	1	μA	
G_{FS}	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 1.5\text{A}$	0.6	—	—	mho	
C_{ISS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	30	pF
C_{OSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	27	pF
C_{RSS}	$V_{\text{GS}} = 0\text{V}$	$V_{\text{DS}} = 28\text{V}$	$F = 1\text{MHz}$	—	—	4.8	pF
$V_{\text{GS(ON)}}$	$V_{\text{GS}} = 10\text{V}$	$I_{\text{D}} = 1.5\text{A}$	—	—	1.6	V	
$V_{\text{GS(TH)}}$	$V_{\text{DS}} = 10\text{V}$	$I_{\text{D}} = 30\text{mA}$	1.0	4.5	6.0	V	

DYNAMIC

Symbol	Test Conditions		Value			Unit		
			Min.	Typ.	Max.			
P_{L}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$I_{\text{DQ}} = 2 \times 50\text{mA}$	30	—	—	W	
G_{PS}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{OUT}} = 30\text{W}$	$I_{\text{DQ}} = 2 \times 50\text{mA}$	13	15	—	dB
η_{D}	$f = 400\text{MHz}$	$V_{\text{DD}} = 28\text{V}$	$P_{\text{OUT}} = 30\text{W}$	$I_{\text{DQ}} = 2 \times 50\text{mA}$	45	50	—	%

PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0229
UDCS No. 1008194 rev B



SGS-THOMSON MICROELECTRONICS		CONT'D			
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.175/4.45	.185/4.70	K	.160/4.06	.175/4.45
B	.055/1.40	.065/1.65	L	.230/5.84	.260/6.60
C	.470/11.94	.510/12.95			
D	.225/5.72	.235/5.97			
E	.115/2.92				
F	.720/18.29	.730/18.54			
G	.970/24.64	.980/24.89			
H	.355/9.02	.365/9.27			
I	.004/0.10	.006/0.15			
J	.120/3.05	.130/3.30			

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