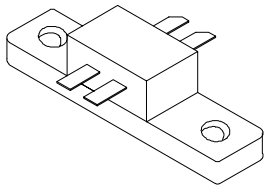
SGS-THOMSON MICROELECTRONICS

SD2903

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



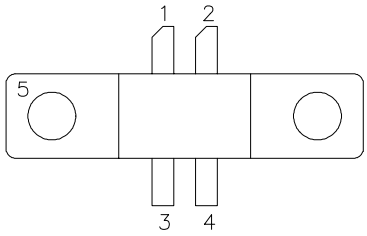
.230 x .360 4L FL
(M229)

ORDER CODE	BRANDING
SD2903	SD2903

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.

PIN CONNECTION



1. Drain
2. Drain
3. Gate
4. Gate
5. Source

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 ($T_{heatsink} \leq 25°C$)	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_{case} = 25°C)

STATIC (per side)

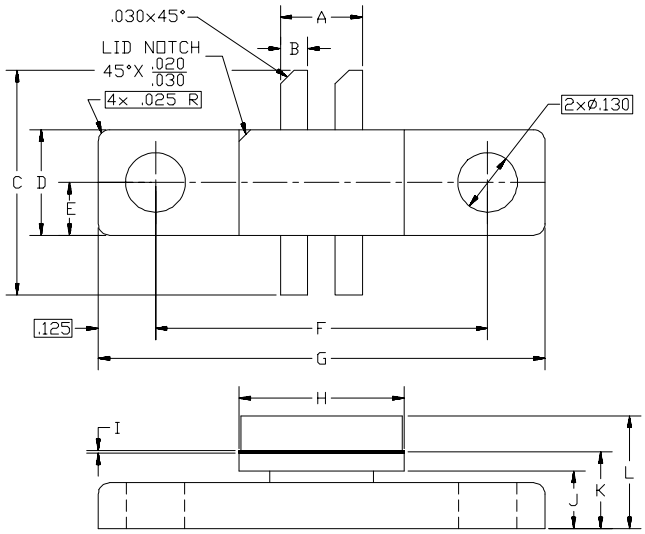
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$V_{(BR)DSS}$	V_{GS} = 0V	I_{DS} = 15mA		65	—	—	V
I_{DSS}	V_{GS} = 0V	V_{DS} = 28V		—	—	1.5	mA
I_{GSS}	V_{GS} = 20V	V_{DS} = 0V		—	—	1	µA
G_{FS}	V_{DS} = 10V	I_D = 1.5A		0.6	—	—	mho
C_{ISS}	V_{GS} = 0V	V_{DS} = 28V	F = 1MHz	—	—	30	pF
C_{OSS}	V_{GS}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

DYNAMIC

Symbol	Test Conditions				Value			Unit
					Min.	Typ.	Max.	
P_L	f = 400MHz	V_{DD} = 28V		I_{DQ} = 2x50mA	30	—	—	W
G_{PS}	f = 400MHz	V_{DD} = 28V	P_{OUT} = 30W	I_{DQ} = 2x50mA	13	15	—	dB
η_D	f = 400MHz	V_{DD} = 28V	P_{OUT} = 30W	I_{DQ} = 2x50mA	45	50	—	%

PACKAGE MECHANICAL DATA

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



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.175/4.45	.185/4.70
B	.055/.140	.065/1.65
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

CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
K	.160/4.06	.175/4.45
L	.230/5.84	.260/6.60