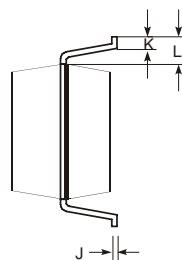
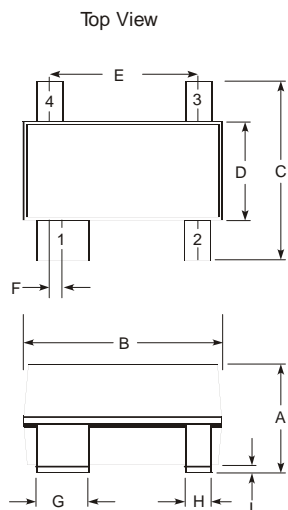


MECHANICAL DATA



SOT143 PACKAGE

PIN 1 – DRAIN                      PIN 3 – GATE  
 PIN 2 – SOURCE                    PIN 4 – SOURCE

Dim.	mm		Inches	
	min	max	min	max
A	0.89	1.12	0.035	0.044
B	2.80	3.04	0.110	0.120
C	2.10	2.64	0.083	0.104
D	1.20	1.40	0.047	0.055
E	1.92 BSC		0.075 BSC	
F	0.20 BSC		0.008 BSC	
G	0.76	0.94	0.030	0.037
H	0.37	0.51	0.015	0.020
I	0.05	0.15	0.002	0.006
J	0.09	0.18	0.004	0.007
K	0.40	0.60	0.016	0.024
L	0.55 REF		0.021 REF	

**GOLD METALLISED  
 MULTI-PURPOSE SILICON  
 DMOS RF FET  
 1W – 12.5V – 1GHz  
 SINGLE ENDED**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW  $C_{rss}$
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 10 dB MINIMUM

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS  
 from 1 MHz to 1 GHz

$P_D$	Power Dissipation	1W
$BV_{DSS}$	Drain – Source Breakdown Voltage	40V
$BV_{GSS}$	Gate – Source Breakdown Voltage	$\pm 20V$
$I_{D(sat)}$	Drain Current	2A
$T_{stg}$	Storage Temperature	-65 to 125°C
$T_j$	Maximum Operating Junction Temperature	150°C

## ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV <sub>DSS</sub> Drain–Source Breakdown Voltage	V <sub>GS</sub> = 0 I <sub>D</sub> = 10mA	40			V
I <sub>DSS</sub> Zero Gate Voltage Drain Current	V <sub>DS</sub> = 12.5V V <sub>GS</sub> = 0			1	mA
I <sub>GSS</sub> Gate Leakage Current	V <sub>GS</sub> = 20V V <sub>DS</sub> = 0			1	μA
V <sub>GS(th)</sub> Gate Threshold Voltage*	I <sub>D</sub> = 10mA V <sub>DS</sub> = V <sub>GS</sub>	0.5		7	V
g <sub>fs</sub> Forward Transconductance*	V <sub>DS</sub> = 10V I <sub>D</sub> = 0.2A	0.18			S
G <sub>PS</sub> Common Source Power Gain	P <sub>O</sub> = 1W	10			dB
η Drain Efficiency	V <sub>DS</sub> = 12.5V I <sub>DQ</sub> = 50mA	40			%
VSWR Load Mismatch Tolerance	f = 1GHz	20:1			—
C <sub>iss</sub> Input Capacitance	V <sub>DS</sub> = 0V V <sub>GS</sub> = -5V f = 1MHz			12	pF
C <sub>oss</sub> Output Capacitance	V <sub>DS</sub> = 12.5V V <sub>GS</sub> = 0 f = 1MHz			10	pF
C <sub>rss</sub> Reverse Transfer Capacitance	V <sub>DS</sub> = 12.5V V <sub>GS</sub> = 0 f = 1MHz			1	pF

\* Pulse Test: Pulse Duration = 300 μs , Duty Cycle ≤ 2%

## THERMAL DATA

R <sub>THj-case</sub>	Thermal Resistance Junction – Case	Max. 175 °C / W
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