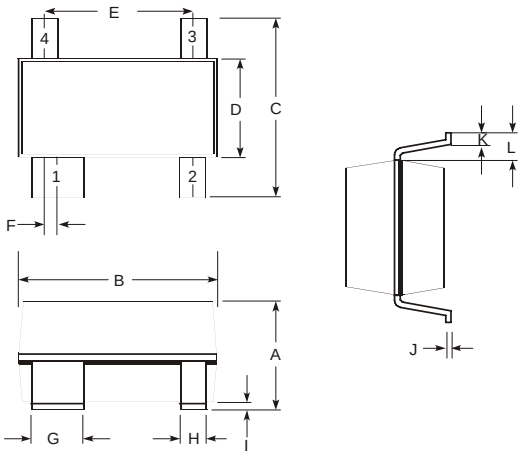
D2290UK

METAL GATE RF SILICON FET

MECHANICAL DATA

Top View



SOT143 PACKAGE

PIN 1 – DRAIN
PIN 2 – SOURCE
PIN 3 – GATE
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	±20V
$I_{D(sat)}$	Drain Current	2A
T_{stg}	Storage Temperature	–65 to 125°C
T_j	Maximum Operating Junction Temperature	150°C

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
BV_{DSS}	Drain–Source Breakdown Voltage	V_{GS} = 0	I_D = 10mA	40			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 12.5V	V_{GS} = 0			1	mA
I_{GSS}	Gate Leakage Current	V_{GS} = 20V	V_{DS} = 0			1	µA
$V_{GS(th)}$	Gate Threshold Voltage*	I_D = 10mA	V_{DS} = V_{GS}	0.5		7	V
g_{fs}	Forward Transconductance*	V_{DS} = 10V	I_D = 0.2A	0.18			S
G_{PS}	Common Source Power Gain	P_O = 1W		10			dB
η	Drain Efficiency	V_{DS} = 12.5V	I_{DQ} = 50mA	40			%
VSWR	Load Mismatch Tolerance	f = 1GHz		20:1			—
C_{iss}	Input Capacitance	V_{DS} = 0V	V_{GS} = –5V f = 1MHz			12	pF
C_{oss}	Output Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			10	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 12.5V	V_{GS} = 0 f = 1MHz			1	pF

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

THERMAL DATA

$R_{THj–case}$	Thermal Resistance Junction – Case	Max. 175 °C / W