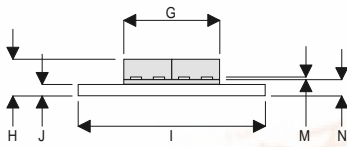
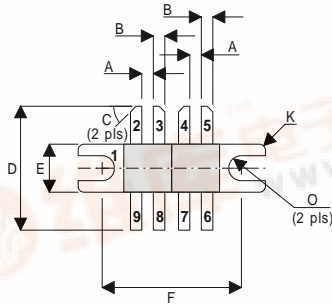


D1053UK

METAL GATE RF SILICON FET

MECHANICAL DATA

GOLD METALLISED MULTI-PURPOSE SILICON DMOS RF FET 50W – 28V – 1GHz PUSH-PULL



DB

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	DRAIN 3
PIN 5	DRAIN 4	PIN 6	GATE 4
PIN 7	GATE 3	PIN 8	GATE 2
PIN 9	GATE 1		

DIM	mm	Tol.	Inches	Tol.
A	1.52	0.13	0.060	0.005
B	1.52	0.13	0.060	0.005
C	45°	5°	45°	5°
D	16.38	0.26	0.645	0.010
E	6.35	0.13	0.250	0.005
F	18.41	0.13	0.725	0.005
G	12.70	0.26	0.500	0.010
H	5.08	0.13	0.200	0.005
I	24.76	0.13	0.975	0.005
J	1.52	0.13	0.060	0.005
K	0.81R	0.13	0.032R	0.005
M	0.13	0.02	0.005	0.001
N	2.16	0.13	0.085	0.005
O	1.65R	0.13	0.065R	0.005

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW C_{rss}
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 7.5 dB MINIMUM

APPLICATIONS

- VHF/UHF COMMUNICATIONS
from 400 MHz to 1 GHz

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

P_D	Power Dissipation	175W
BV_{DSS}	Drain – Source Breakdown Voltage	70V
BV_{GSS}	Gate – Source Breakdown Voltage	±20V
$I_{D(sat)}$	Drain Current	5A
T_{stg}	Storage Temperature	-65 to 150°C
	Maximum Operating Junction Temperature	200°C



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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
B _V DSS	Drain–Source Breakdown Voltage	V _{GS} = 0 I _D = 100mA	70		V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 28V 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}	1	7	V
g _{fs}	Forward Transconductance*	V _{DS} = 10V I _D = 1A	0.8		mhos
V _{GS(th)match}	Gate Threshold Voltage Matching Between Sides	I _D = 10mA V _{DS} = V _{GS}		0.1	V
TOTAL DEVICE					
G _{PS}	Common Source Power Gain	P _O = 50W	7.5		dB
η	Drain Efficiency	V _{DS} = 28V I _{DQ} = 0.8A	45		%
VSWR	Load Mismatch Tolerance	f = 1GHz	20:1		—
PER SIDE					
C _{iss}	Input Capacitance	V _{DS} = 0 V _{GS} = -5V f = 1MHz		60	pF
C _{oss}	Output Capacitance	V _{DS} = 28V V _{GS} = 0 f = 1MHz		30	pF
C _{rss}	Reverse Transfer Capacitance	V _{DS} = 28V V _{GS} = 0 f = 1MHz		2.5	pF

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

HAZARDOUS MATERIAL WARNING

The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

THESE DEVICES MUST NEVER BE THROWN AWAY WITH GENERAL INDUSTRIAL OR DOMESTIC WASTE.

THERMAL DATA

R _{THj-case}	Thermal Resistance Junction – Case	Max. 1.0°C / W
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