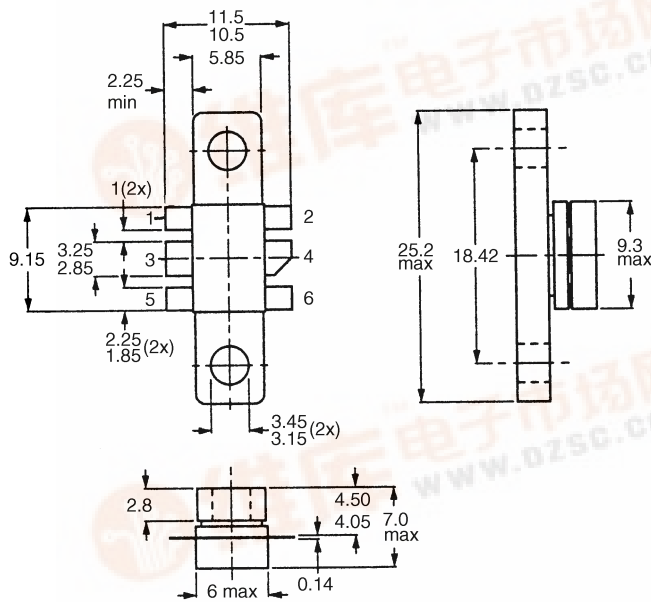


TetraFET

D1094UK

METAL GATE RF SILICON FET

MECHANICAL DATA



**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
20W – 28V – 400MHz
SINGLE ENDED**

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW C_{rss}
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 11 dB MINIMUM

SOT 171

PIN 1	SOURCE	PIN 2	SOURCE
PIN 3	GATE	PIN 4	DRAIN
PIN 5	SOURCE	PIN 6	SOURCE

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

P_D	Power Dissipation	50W
BV_{DSS}	Drain – Source Breakdown Voltage	65V
BV_{GSS}	Gate – Source Breakdown Voltage	$\pm 20V$
$I_{D(sat)}$	Drain Current *	6A
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
B _V DSS Drain–Source Breakdown Voltage	V _{GS} = 0 I _D = 10mA	65			V
I _D DSS Zero Gate Voltage Drain Current	V _{DS} = 28V V _{GS} = 0			6	mA
I _G DSS Gate Leakage Current	V _{GS} = 20V V _{DS} = 0			6	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 = 0.6A	1.08			S
G _{PS} Common Source Power Gain	P _O = 20W	11			dB
η Drain Efficiency	V _{DS} = 28V I _{DQ} = 0.6A	50			%
VSWR Load Mismatch Tolerance	f = 400MHz	20:1			—
C _{iss} Input Capacitance	V _{DS} = 0 V _{GS} = -5V f = 1MHz			72	pF
C _{oss} Output Capacitance	V _{DS} = 28V V _{GS} = 0 f = 1MHz			36	pF
C _{rss} Reverse Transfer Capacitance	V _{DS} = 28V V _{GS} = 0 f = 1MHz			3	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.3.5°C / W
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