



TetraFET

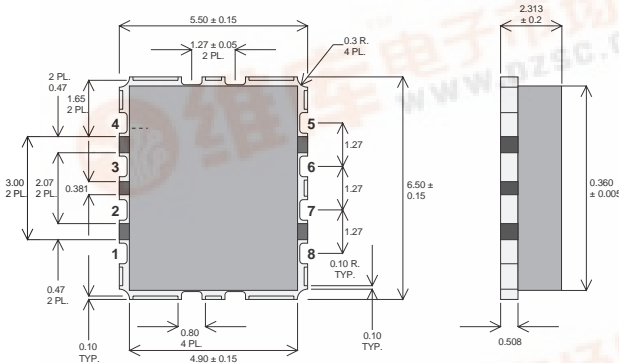
D2030UK

METAL GATE RF SILICON FET

MECHANICAL DATA

Dimensions in mm.

**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
5W – 28V – 1GHz
SINGLE ENDED**



F-0127 PACKAGE

- PIN 1 – SOURCE
- PIN 2 – DRAIN
- PIN 3 – DRAIN
- PIN 4 – SOURCE
- PIN 5 – SOURCE
- PIN 6 – GATE
- PIN 7 – GATE
- PIN 8 – SOURCE

FEATURES

- SIMPLIFIED AMPLIFIER DESIGN
- SUITABLE FOR BROAD BAND APPLICATIONS
- VERY LOW C_{rss}
- SIMPLE BIAS CIRCUITS
- LOW NOISE
- HIGH GAIN – 13 dB MINIMUM

Ceramic Material: Alumina.
Parts can also be supplied with AlN or BeO for improved thermal resistance.
Contact Semelab for details.

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	30W
BV_{DSS}	Drain – Source Breakdown Voltage *	65V
BV_{GSS}	Gate – Source Breakdown Voltage*	±20V
$I_D(sat)$	Drain Current	2A
	Storage Temperature	-65 to 150°C
	Maximum Operating Junction Temperature	200°C



ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS} Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10\text{mA}$	65			V
I_{DSS} Zero Gate Voltage Drain Current	$V_{DS} = 28\text{V}$ $V_{GS} = 0$			2	mA
I_{GSS} Gate Leakage Current	$V_{GS} = 20\text{V}$ $V_{DS} = 0$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage*	$I_D = 10\text{mA}$ $V_{DS} = V_{GS}$	1		5	V
g_{fs} Forward Transconductance*	$V_{DS} = 10\text{V}$ $I_D = 0.4\text{A}$	0.36			S
G_{PS} Common Source Power Gain	$P_O = 5\text{W}$	13			dB
η Drain Efficiency	$V_{DS} = 28\text{V}$ $I_{DQ} = 0.4\text{A}$	40			%
VSWR Load Mismatch Tolerance	$f = 1\text{GHz}$	20:1			—
C_{iss} Input Capacitance	$V_{DS} = 0\text{V}$ $V_{GS} = -5\text{V}$ $f = 1\text{MHz}$			24	pF
C_{oss} Output Capacitance	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			12	pF
C_{rss} Reverse Transfer Capacitance	$V_{DS} = 28\text{V}$ $V_{GS} = 0$ $f = 1\text{MHz}$			1	pF

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

THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 6°C / W
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