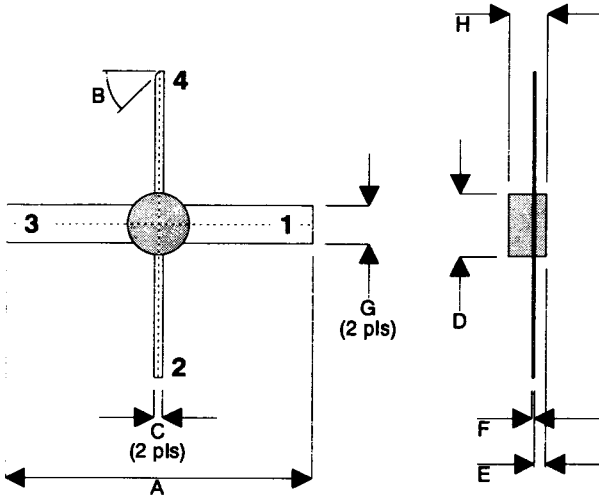


MECHANICAL DATA

**GOLD METALLISED
MULTI-PURPOSE SILICON
DMOS RF FET
1W – 28V – 2GHz
SINGLE ENDED**



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

FEATURES

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

DIM	Millimetres	Tol.	Inches	Tol.
A	25.40	0.25	1.00	0.010
B	45°	5°	45°	5°
C	0.76	0.05	0.030	0.002
D	5.21 DIA	0.13	0.205	0.005
E	1.02	0.13	0.040	0.005
F	0.13	0.02	0.005	0.001
G	3.18	0.13	0.125	0.005
H	3.18	REF	0.125	REF

APPLICATIONS

- HF/VHF/UHF COMMUNICATIONS
from DC to 2 GHz

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

P_D	Power Dissipation	4W
BV_{DSS}	Drain – Source Breakdown Voltage	65V
BV_{GSS}	Gate – Source Breakdown Voltage	$\pm 20V$
$I_{D(sat)}$	Drain Current	1A
T_{stg}	Storage Temperature	-65 to 150°C
T_j	Maximum Operating Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{DSS} Drain-Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 10mA$	65			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*	$V_{DS} = 10V$ $I_D = 0.2A$	0.18			mhos
P_{out} Power Output	$V_{DS} = 28V$ $I_{DQ} = 75mA$ $f = 30MHz$ $P_{in} = 5mW$	750			mW
C_{iss} Input Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$ $f = 1MHz$			12	pF
C_{oss} Output Capacitance	$V_{DS} = 28V$ $V_{GS} = 0$ $f = 1MHz$			6	
C_{rss} Reverse Transfer Capacitance				0.5	

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

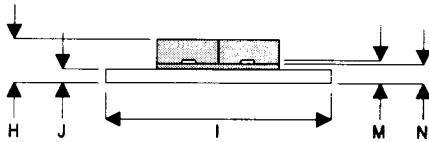
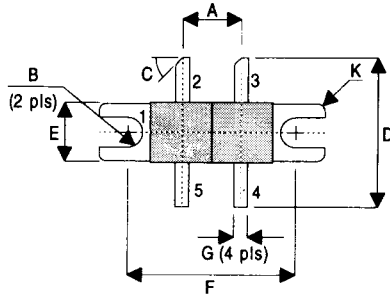
THERMAL DATA

$R_{THj-case}$	Thermal Resistance Junction – Case	Max. 30°C / W
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MECHANICAL DATA

TetraFET

40W – 28V – 1.0GHz



DIM	mm	Tol.	Inches	Tol.
A	6.45	0.13	0.254	0.005
B	1.65R	0.13	0.65R	0.005
C	45°	5°	45°	5°
D	16.51	0.76	0.650	0.03
E	6.47	0.13	0.255	0.005
F	18.41	0.13	0.725	0.005
G	1.52	0.13	0.060	0.005
H	4.82	0.25	0.190	0.010
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

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	GATE 2
PIN 5	GATE 1		

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
BV_{DSS}	Drain-Source Breakdown Voltage $I = 50mA$	65			V
I_{DSS}	Zero Gate Voltage Drain Current $V = 28V$			2	mA
I_{GSS}	Gate Leakage Current $V = 20V$			1	μA
$V_{GS(th)}$	Gate Threshold Voltage $I = 10mA$	1		7	V
g_m	* $V = 10V$ $I = 2A$ $T = 300\mu S$		1.6		mhos
C_{iss}	Input Capacitance $V_{DS} = 0V$ $V_{GS} = -5V$		86		pF
C_{oss}	Output Capacitance $V = 28V$		35		pF
C_{rss}	Reverse Transfer Capacitance $V = 28V$		2		pF
TOTAL DEVICE					
$P_O = 40W$ $F = 1GHz$ $V = 28V$ $I_{DQ} = 1.6A$					
Thermal Resistance = 1.0 $^{\circ}C / W$					

HAZARDOUS MATERIAL WARNING

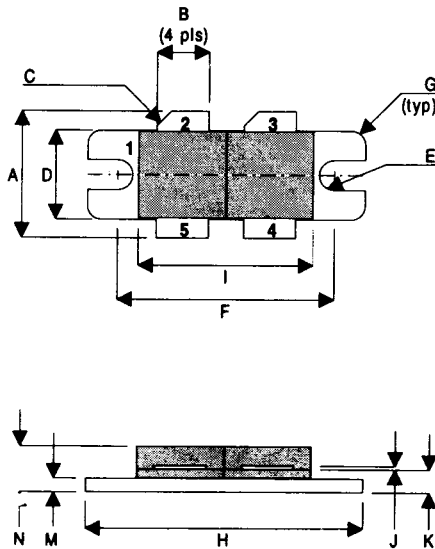
The ceramic portion of the device between leads and metal flange is beryllium oxide. Beryllium oxide dust is highly toxic and care must be taken during handling and mounting to avoid damage to this area.

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

MECHANICAL DATA

TetraFET

80W – 28V – 1.0GHz



DIM	mm	Tol.	Inches	Tol.
A	13.97	0.26	0.550	0.010
B	5.72	0.13	0.225	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	1.65R	0.13	0.065R	0.005
F	23.75	0.13	0.935	0.005
G	1.52R	0.13	0.060R	0.005
H	30.48	0.13	1.200	0.005
I	19.17	0.26	0.755	0.010
J	0.13	0.02	0.005	0.001
K	2.54	0.13	0.100	0.005
M	1.52	0.13	0.060	0.005
N	5.08	0.50	0.200	0.020

PIN 1	SOURCE (COMMON)	PIN 2	DRAIN 1
PIN 3	DRAIN 2	PIN 4	GATE 2
PIN 5	GATE 1		

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
BV_{DSS} Drain-Source Breakdown Voltage	$I = 100\text{mA}$	65			V
I_{DSS} Zero Gate Voltage Drain Current	$V = 28\text{V}$			3	mA
I_{GSS} Gate Leakage Current	$V = 20\text{V}$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage	$I = 10\text{mA}$	1		7	V
g_m *	$V = 10\text{V}$ $I = 2\text{A}$ $T = 300\mu\text{S}$		2.5		mhos
C_{iss} Input Capacitance	$V_{DS} = 0\text{V}$ $V_{GS} = -5\text{V}$		128		pF
C_{oss} Output Capacitance	$V = 28\text{V}$		51		pF
C_{rss} Reverse Transfer Capacitance	$V = 28\text{V}$		2.7		pF
TOTAL DEVICE					
$P_O = 80\text{W}$ $F = 1\text{GHz}$ $V = 28\text{V}$ $I_{DQ} = 2\text{A}$					
Thermal Resistance = 0.72°C/W					

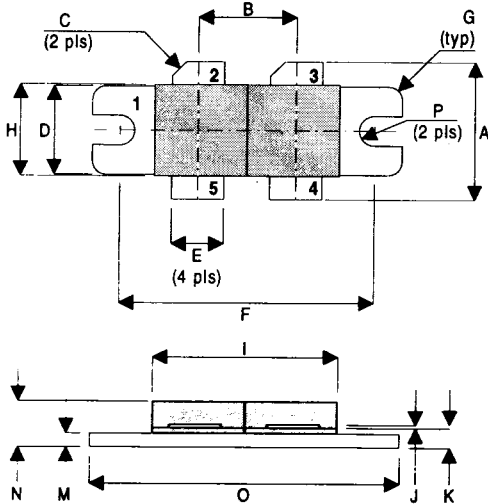
HAZARDOUS MATERIAL WARNING

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.

MECHANICAL DATA

TetraFET
100W – 28V – 900MHz



DIM	mm	Tol.	Inches	Tol.
A	15.24	0.50	0.600	0.020
B	10.77	0.13	0.424	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	5.71	0.13	0.225	0.005
F	27.94	0.13	1.100	0.005
G	1.52R	0.13	0.060R	0.005
H	10.16	0.13	0.400	0.005
I	22.22	MAX	0.875	MAX
J	0.13	0.02	0.005	0.001
K	2.16	0.13	0.085	0.005
M	1.52	0.13	0.060	0.005
N	5.08	0.50	0.200	0.020
O	34.03	0.13	1.340	0.005
P	1.57R	0.08	0.062R	0.003

- PIN 1 SOURCE (COMMON) PIN 2 DRAIN 1
- PIN 3 DRAIN 2 PIN 4 GATE 2
- PIN 5 GATE 1

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
BV_{DSS} Drain-Source Breakdown Voltage	$I = 100mA$	65			V
I_{DSS} Zero Gate Voltage Drain Current	$V = 28V$			4	mA
I_{GSS} Gate Leakage Current	$V = 20V$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage	$I = 10mA$	1		7	V
g_m *	$V = 10V$ $I = 3A$ $T = 300\mu S$		3.2		mhos
C_{iss} Input Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$		170		pF
C_{oss} Output Capacitance	$V = 28V$		68		pF
C_{rss} Reverse Transfer Capacitance	$V = 28V$		3.6		pF
TOTAL DEVICE					
$P_O = 100W$ $F = 900MHz$ $V = 28V$ $I_{DQ} = 3A$					
Thermal Resistance = $0.6^{\circ}C / W$					

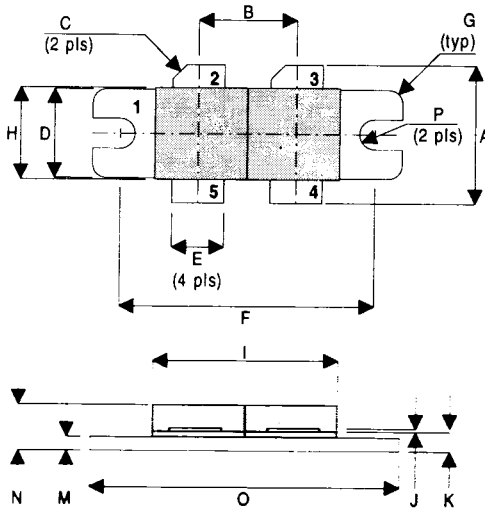
HAZARDOUS MATERIAL WARNING

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.

MECHANICAL DATA

**TetraFET
120W – 28V – 0.8GHz**



DIM	mm	Tol.	Inches	Tol.
A	15.24	0.50	0.600	0.020
B	10.77	0.13	0.424	0.005
C	45°	5°	45°	5°
D	9.78	0.13	0.385	0.005
E	5.71	0.13	0.225	0.005
F	27.94	0.13	1.100	0.005
G	1.52R	0.13	0.060R	0.005
H	10.16	0.13	0.400	0.005
I	22.22	MAX	0.875	MAX
J	0.13	0.02	0.005	0.001
K	2.16	0.13	0.085	0.005
M	1.52	0.13	0.060	0.005
N	5.08	0.50	0.200	0.020
O	34.03	0.13	1.340	0.005
P	1.57R	0.08	0.062R	0.003

- PIN 1 SOURCE (COMMON) PIN 2 DRAIN 1
- PIN 3 DRAIN 2 PIN 4 GATE 2
- PIN 5 GATE 1

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
PER SIDE					
BV_{DSS} Drain-Source Breakdown Voltage	$I = 100mA$	65			V
I_{DSS} Zero Gate Voltage Drain Current	$V = 28V$			5	mA
I_{GSS} Gate Leakage Current	$V = 20V$			1	μA
$V_{GS(th)}$ Gate Threshold Voltage	$I = 10mA$	1		7	V
g_m *	$V = 10V$ $I = 4A$ $T = 300\mu S$		4		mhos
C_{iss} Input Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$		215		pF
C_{oss} Output Capacitance	$V = 28V$		85		pF
C_{rss} Reverse Transfer Capacitance	$V = 28V$		4.5		pF
TOTAL DEVICE					
$P_O = 120W$ $F = 800MHz$ $V = 28V$ $I_{DQ} = 4A$					
Thermal Resistance = $0.52^{\circ}C / W$					

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.