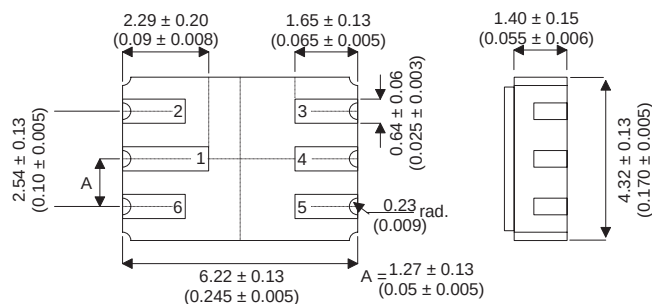


SMALL SIGNAL DUAL N-CHANNEL J-FET IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA

Dimensions in mm (inches)



(LCC2 PACKAGE)

Underside View

PAD 1 – Gate 1 PAD 4 – Gate 2
PAD 2 – Source 1 PAD 5 – Source 2
PAD 3 – Drain 2 PAD 6 – Drain 1

FEATURES

- HERMETIC CERAMIC SURFACE MOUNT PACKAGE
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N4416 for high reliability / space applications requiring small size and low weight devices.

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

		PER SIDE	TOTAL DEVICE
V_{GD}	Gate – Drain Voltage		–30V
V_{GS}	Gate – Source Voltage		–30V
I_G	Gate Current		10mA
P_D	Power Dissipation	350mW	500mW
	Derate Above 25°C	2.8mW/ $^{\circ}\text{C}$	4.0mW/ $^{\circ}\text{C}$
T_j	Operating Junction Temperature Range		–55 to 150°C
T_{stg}	Storage Temperature Range		–55 to 150°C

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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Document Number 3292
Issue 1

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS					
$V_{(BR)GSS}$ Gate – Source Breakdown Voltage	$V_{DS} = 0V$ $I_G = -1\mu A$	-30	-35		V
$V_{GSS(off)}$ Gate – Source Cut-off Voltage	$V_{DS} = 15V$ $I_D = 1nA$		-3	-6	
I_{DSS}^* Saturation Current	$V_{DS} = 15V$ $V_{GS} = 0V$	5	10	15	mA
I_{GSS} Gate Reverse Current	$V_{GS} = -15V$			-1	nA
	$V_{DS} = 0V$ $T_{amb} = 125^{\circ}\text{C}$		-0.6	-200	
$I_{D(off)}$ Drain Cut-off Current	$V_{DG} = 10V$ $V_{GS} = -10V$			100	pA
	$V_{DS} = 10V$ $V_{GS} = -6V$		2		
$V_{DS(on)}$ Drain – Source On Voltage	$V_{GS} = 0V$ $I_D = 3mA$		0.25	0.4	nA
$R_{DS(on)}$ Drain – Source On Resistance	$V_{GS} = 0V$ $I_D = 1mA$		150		Ω
DYNAMIC CHARACTERISTICS					
$R_{DS(on)}$ Drain – Source On Resistance	$V_{GS} = 0V$ $I_D = 0mA$ $f = 1kHz$		150		Ω
C_{ISS} Common – Source Input Capacitance	$V_{DS} = 15V$ $V_{GS} = 0V$ $f = 1KHz$		2.2		pF
C_{RSS} Common – Source Reverse Transfer Capacitance	$V_{DS} = 15V$ $V_{GS} = 0V$ $f = 1MHz$		0.7		pF
$\bar{e}_n$ Equivalent Input Noise Voltage	$V_{DG} = 10V$ $V_{GS} = 0V$ $f = 1kHz$		6		$\frac{nV}{\sqrt{Hz}}$

* Pulse Test: $PW \leq 300 \mu s$ Duty Cycle $\leq 30\%$