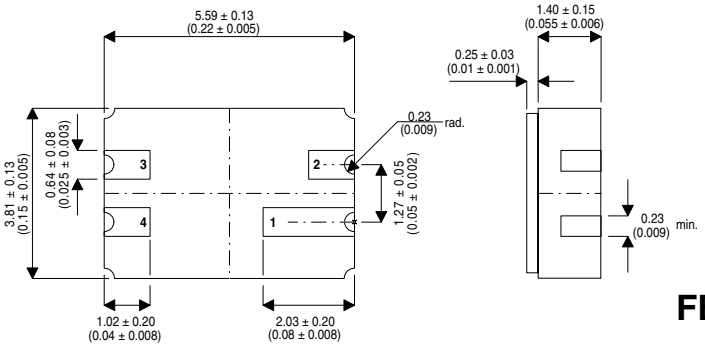
2N6661CSM4

MECHANICAL DATA

Dimensions in mm (inches)



CERAMIC LCC3 PACKAGE (MO-041BA)

(Underside View)

PAD 1 – DRAIN PAD 3 – SOURCE
PAD 2 – N/C PAD 4 – GATE

N–CHANNEL ENHANCEMENT MODE MOSFET

V_{DSS} 90V
I_D 0.9A
$R_{DS(on)}$ 4.0Ω

FEATURES

- Faster switching
- Low Ciss
- Integral Source-Drain Diode
- High Input Impedance and High Gain

DESCRIPTION

This enhancement-mode (normally-off) vertical DMOS FET is ideally suited to a wide range of switching and amplifying applications where high breakdown voltage, high input impedance, low input capacitance, and fast switching speeds are desired.

High Reliability Screening options are available.

ABSOLUTE MAXIMUM RATINGS T_{CASE} = 25°C unless otherwise stated

V_{DS}	Drain - Source Voltage		90V
I_D	Drain Current	- Continuous (T_C = 25°C)	0.9A
		- Continuous (T_C = 100°C)	0.7A
I_{DM}	Drain Current	- Pulsed (Note 1)	3A
V_{GS}	Gate - Source Voltage		±20V
$P_{tot(1)}$	Total Power Dissipation at T_{mb} ≤ 25°C		6.25W
	De-rate Linearly above 25°C		0.050W/°C
$P_{tot(2)}$	Total Power Dissipation at T_{amb} ≤ 25°C		0.5W
T_j,T_{stg}	Operating and Storage Junction Temperature Range		-55 to +150°C

THERMAL DATA

R_{thj-mb}	Thermal Resistance Junction – Mounting base	Max	20	°C/W
$R_{thj-amb}$	Thermal Resistance Junction - Ambient	Max	250	°C/W

NOTES: 1) Repetitive Rating: Pulse Width limited by maximum junction temperature.
2) Pulse Test: Pulse Width ≤ 380µS, Duty Cycle , δ 2%

Semelab plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

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

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	Drain – Source Breakdown Voltage	V_{GS} = 0V	I_D = 1.0µA	90	-	-	V
$V_{GS(th)}$	Gate – Source threshold Voltage	V_{DS} = V_{GS}	I_D = 1.0mA	0.8	-	2	
			T_C = 125°C	0.3	-	-	
			T_C = -55°C	-	-	2.5	
I_{GSS}	Gate – Source Leakage Current	V_{GS} = ±20V	V_{DS} = 0V	-	-	±100	nA
			T_C = 125°C	-	-	±500	
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 72V	V_{GS} = 0V	-	-	1.0	µA
			T_C = 125°C	-	-	100	
$I_{D(on)}$	On – State Drain Current (note 2)	V_{DS} = 15V	V_{GS} = 10V	1.5	-	-	A
$R_{DS(on)}$	Drain – Source On Resistance (note 3)	V_{GS} = 5V	I_D = 0.3A	-	-	5.3	Ω
		V_{GS} = 10V	I_D = 1.0A	-	-	4	
			T_C = 125°C	-	-	7.5	
$V_{DS(on)}$	Drain – Source On Voltage (note 2)	V_{GS} = 5V	I_D = 0.3A	-	-	1.6	V
		V_{GS} = 10V	I_D = 1.0A	-	-	4	
			T_C = 125°C	-	-	7.5	
g_{FS}	Forward Transconductance (Note 2)	V_{DS} = 7.5V	I_D = 0.475A	170	-	-	ms
V_{SD}	Diode Forward Voltage (Note 2)	V_{GS} = 0V	I_s = 0.86A	0.7	-	1.4	V

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	V_{DS} = 25V f = 1.0MHz	V_{GS} = 0V	-	-	50	pF
C_{oss}	Output Capacitance			-	-	40	
C_{rss}	Reverse Transfer Capacitance			-	-	10	
$T_{d(on)}$	Turn-On Delay	V_{DD} = 25V R_{GS} = 50Ω	I_D = 1A (Note 2)	-	-	10	ns
$T_{d(off)}$	Turn-Off Delay Time			-	-	10	

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