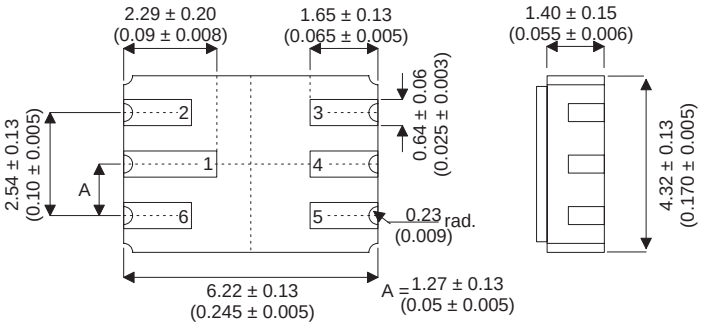
2N7002DCSM

MECHANICAL DATA
Dimensions in mm (inches)



DUAL N–CHANNEL ENHANCEMENT MODE MOS TRANSISTOR

FEATURES

- $V_{(BR)DSS}$ = 60V
- $RDS_{(ON)}$ = 7.5Ω
- I_D = 0.115A

CERAMIC LCC2 PACKAGE (underside view)

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

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

		PER SIDE	TOTAL DEVICE
V_{DS}	Drain – Source Voltage	60V	
V_{GS}	Gate – Source Voltage	±40V	
I_D	Drain Current	±0.115A	
I_{DM}	Pulsed Drain Current *	0.8A	
P_D	Power Dissipation	200mW	400mW
	Derate Above 25°C	1.60mW/°C	2.0mW/°C
T_j	Operating Junction Temperature Range	–55 to 150°C	
T_{stg}	Storage Temperature Range	–55 to 150°C	
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	625°C/W	250°C/W

* Pulse width limited by maximum junction temperature.

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SEME LAB

2N7002DCSM

ELECTRICAL CHARACTERISTICS (T_{CASE} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	STATIC CHARACTERISTICS						
$V_{(BR)DSS}$	Gate – Source Breakdown Voltage	V_{GS} = 0V	I_D = 10µA	60	70		V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = 0.25mA	1	2.15	2.5	
I_{GSS}	Gate – Body Leakage Current	V_{GS} = ±20V V_{DS} = 0V				±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 60V	V_{GS} = 0V			1	µA
			T_{CASE} = 125°C			500	
$I_{D(on)*}$	On–State Drain Current	V_{DS}≥2$V_{DS(ON)}$	V_{GS} = 10V	500	1000		mA
$R_{DS(on)*}$	Drain – Source On Resistance	V_{GS} = 5V			5	7.5	Ω
		I_D = 50mA	T_{CASE} = 125°C		9	13.5	
		V_{GS} = 10V			2.5	7.5	
		I_D = 0.5A	T_{CASE} = 125°C		4.4	13.5	
$V_{DS(on)*}$	Drain – Source On Voltage	V_{GS} = 5V	I_D = 50mA		0.25	0.375	V
		V_{GS} = 10V			1.25	3.75	
		I_D = 0.5A	T_{CASE} = 125°C		2.2	6.75	
g_{FS*}	Forward Transconductance	V_{DS} = 10V	I_D = 0.2A	80	170		ms
g_{OS*}	Common Source Output Conductance	V_{DS} = 5V	I_D = 50mA		500		µs
	DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{DS} = 25V			16	50	pF
C_{oss}	Output Capacitance	V_{GS} = 0V			11	25	
C_{rss}	Reverse Transfer Capacitance	f = 1MHz			2	5	
	SWITCHING CHARACTERISTICS						
t_{ON}	Turn–On Time	V_{DD} = 30V	V_{GEN} = 10V		7	20	ns
t_{OFF}	Turn–Off Time	R_L = 150Ω	R_G = 25Ω		7	20	
		I_D = 0.2A					

* Pulse Test: PW = 80 µs , δ ≤ 1%

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