

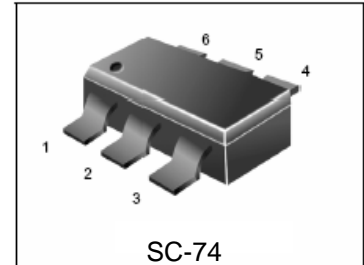
Small Signal MOSFET

115 mAmps, 60 Volts

N-Channel SC-74

L2N7002DMT1G
S-L2N7002DMT1G

- We declare that the material of product compliance with RoHS requirements.
- ESD Protected:1000V
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V _{dc}
Drain-Gate Voltage ($R_{GS} = 1.0 \text{ M}\Omega$)	V_{DGR}	60	V _{dc}
Drain Current - Continuous $T_C = 25^\circ\text{C}$ (Note 1.) $T_C = 100^\circ\text{C}$ (Note 1.) - Pulsed (Note 2.)	I_D I_D I_{DM}	± 115 ± 75 ± 800	mA _{dc}
Gate-Source Voltage - Continuous - Non-repetitive ($t_p \leq 50 \mu\text{s}$)	V_{GS} V_{GSM}	± 20 ± 40	V _{dc} V _{pk}

115 mAmps

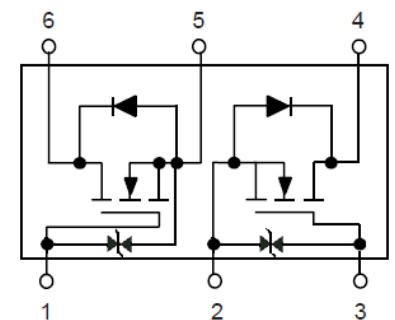
60 VOLTS

$R_{DS(on)} = 7.5 \Omega$

N - Channel

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 3.) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (Note 4.) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$



1. The Power Dissipation of the package may result in a lower continuous drain current.
2. Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.
3. FR-5 = $1.0 \times 0.75 \times 0.062$ in.
4. Alumina = $0.4 \times 0.3 \times 0.025$ in 99.5% alumina.

ORDERING INFORMATION

Device	Marking	Shipping
L2N7002DMT1G S-L2N7002DMT1G	72D	3000 Tape & Reel
L2N7002DMT3G S-L2N7002DMT3G	72D	10000 Tape & Reel

L2N7002DMT1G , S-L2N7002DMT1G

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Drain–Source Breakdown Voltage ($V_{GS} = 0, I_D = 250\mu\text{A}$)	$V_{(BR)DSS}$	60	–	–	Vdc
Zero Gate Voltage Drain Current ($V_{GS} = 0, V_{DS} = 60\text{ Vdc}$)	I_{DSS}	–	–	1.0	μA
		–	–	500	
Gate–Body Leakage Current, Forward ($V_{GS} = 20\text{ Vdc}$)	I_{GSSF}	–	–	1.0	μA
Gate–Body Leakage Current, Reverse ($V_{GS} = -20\text{ Vdc}$)	I_{GSSR}	–	–	-1.0	μA

ON CHARACTERISTICS (Note 2.)

Gate Threshold Voltage ($V_{DS} = V_{GS}, I_D = 250\mu\text{A}$)	$V_{GS(th)}$	1.0	1.6	2	Vdc
On–State Drain Current ($V_{DS} \geq 2.0 V_{DS(on)}, V_{GS} = 10\text{ Vdc}$)	$I_{D(on)}$	500	–	–	mA
Static Drain–Source On–State Voltage ($V_{GS} = 10\text{ Vdc}, I_D = 500\text{ mA}$) ($V_{GS} = 5.0\text{ Vdc}, I_D = 50\text{ mA}$)	$V_{DS(on)}$	–	–	3.75 0.375	Vdc
Static Drain–Source On–State Resistance ($V_{GS} = 10\text{ V}, I_D = 500\text{ mA}$) $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$ ($V_{GS} = 5.0\text{ Vdc}, I_D = 50\text{ mA}$) $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	$r_{DS(on)}$	–	–	7.5 13.5 7.5 13.5	Ohms
Forward Transconductance ($V_{DS} \geq 2.0 V_{DS(on)}, I_D = 200\text{ mA}$)	g_{FS}	80	–	–	mmhos

DYNAMIC CHARACTERISTICS

Input Capacitance ($V_{DS} = 25\text{ Vdc}, V_{GS} = 0, f = 1.0\text{ MHz}$)	C_{iss}	–	17	50	pF
Output Capacitance ($V_{DS} = 25\text{ Vdc}, V_{GS} = 0, f = 1.0\text{ MHz}$)	C_{oss}	–	10	25	pF
Reverse Transfer Capacitance ($V_{DS} = 25\text{ Vdc}, V_{GS} = 0, f = 1.0\text{ MHz}$)	C_{rss}	–	2.5	5.0	pF

SWITCHING CHARACTERISTICS (Note 2.)

Turn–On Delay Time	$(V_{DD} = 25\text{ Vdc}, I_D \cong 500\text{ mA}, R_G = 25\Omega, R_L = 50\Omega, V_{gen} = 10\text{ V})$	$t_{d(on)}$	–	7	20	ns
Turn–Off Delay Time		$t_{d(off)}$	–	11	40	ns

BODY–DRAIN DIODE RATINGS

Diode Forward On–Voltage ($I_S = 115\text{ mA}, V_{GS} = 0\text{ V}$)	V_{SD}	–	–	1.5	Vdc
Source Current Continuous (Body Diode)	I_S	–	–	115	mA
Source Current Pulsed	I_{SM}	–	–	800	mA

2. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

TYPICAL ELECTRICAL CHARACTERISTICS

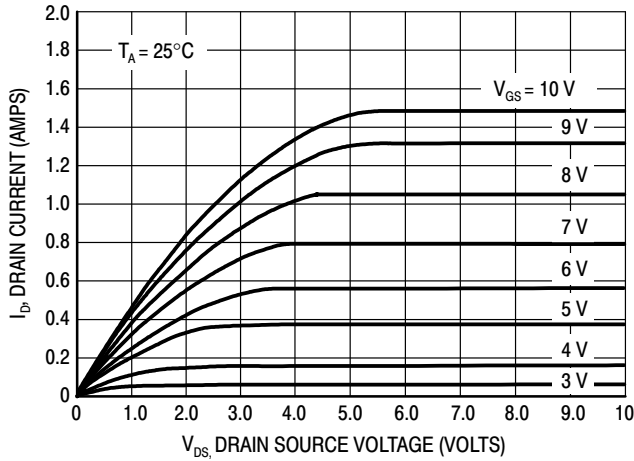


Figure 1. Ohmic Region

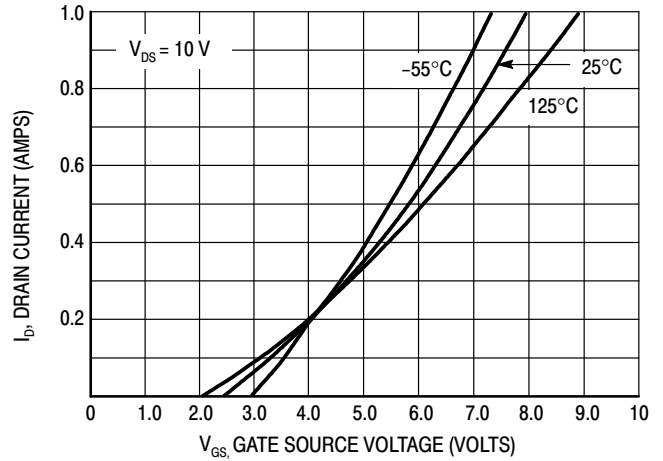


Figure 2. Transfer Characteristics

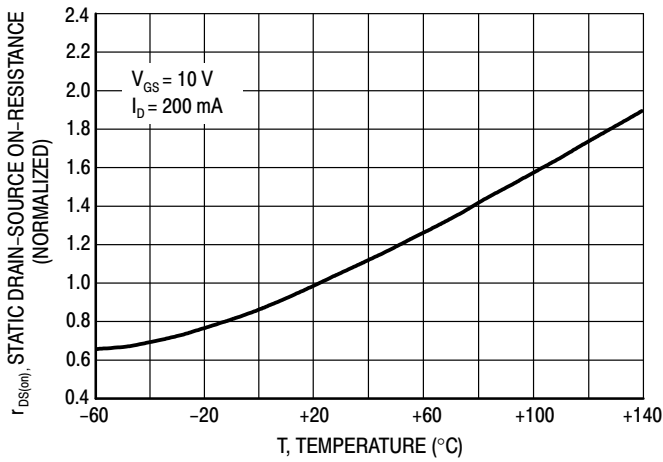


Figure 3. Temperature versus Static Drain-Source On-Resistance

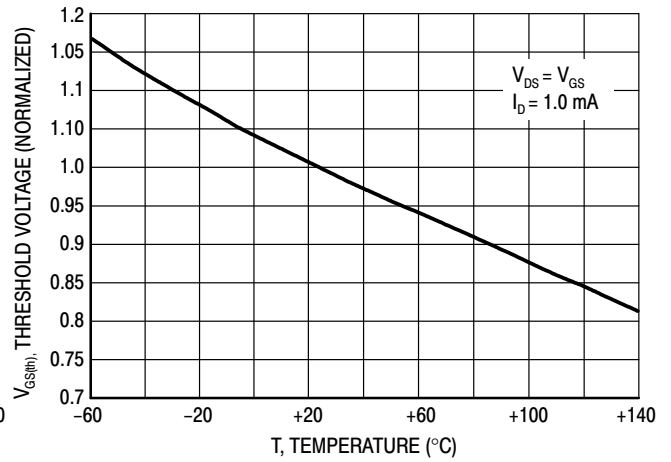
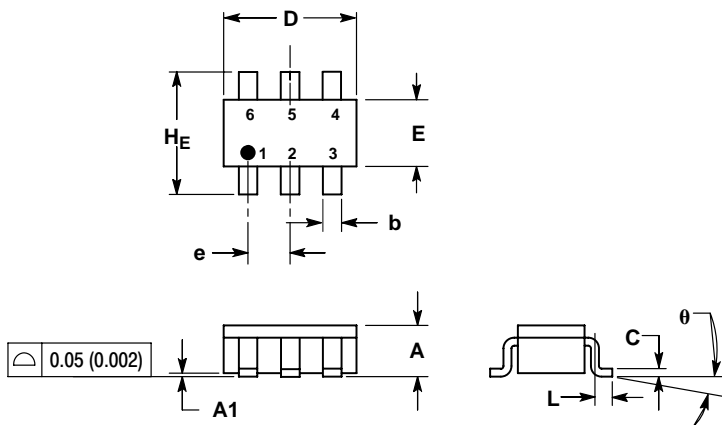


Figure 4. Temperature versus Gate Threshold Voltage

SC-74



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90	1.00	1.10	0.035	0.039	0.043
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.25	0.37	0.50	0.010	0.015	0.020
c	0.10	0.18	0.26	0.004	0.007	0.010
D	2.90	3.00	3.10	0.114	0.118	0.122
E	1.30	1.50	1.70	0.051	0.059	0.067
e	0.85	0.95	1.05	0.034	0.037	0.041
L	0.20	0.40	0.60	0.008	0.016	0.024
HE	2.50	2.75	3.00	0.099	0.108	0.118
θ	0°	-	10°	0°	-	10°

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)