

SE2N7002
60V,300mA N-Channel MOSFET

Revision:A

General Description

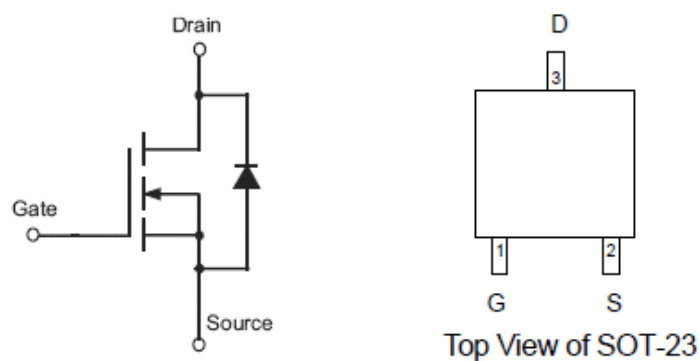
The MOSFETs from SINO-IC provide the best combination of fast switching, low on-resistance and cost-effectiveness.

Features

- $V_{DS(V)} = 60V$
- $I_D = 300mA$
- $R_{DS(ON)} < 2\Omega$ ($V_{GS} = 10V, I_D = 0.5A$)
- $R_{DS(ON)} < 3\Omega$ ($V_{GS} = 5V, I_D = 0.05A$)

Pin configurations

See Diagram below



Absolute Maximum Ratings

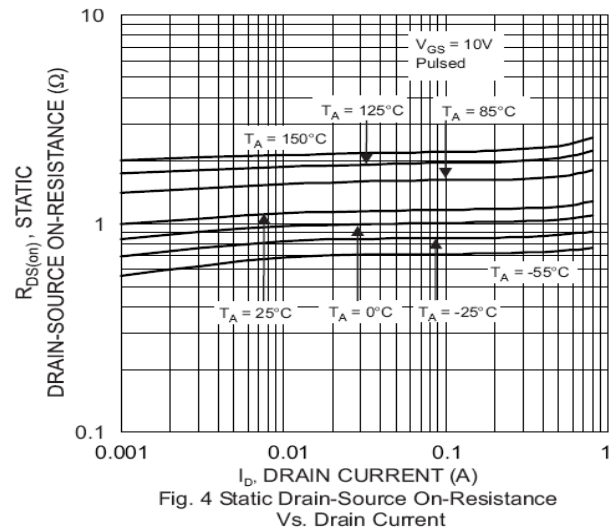
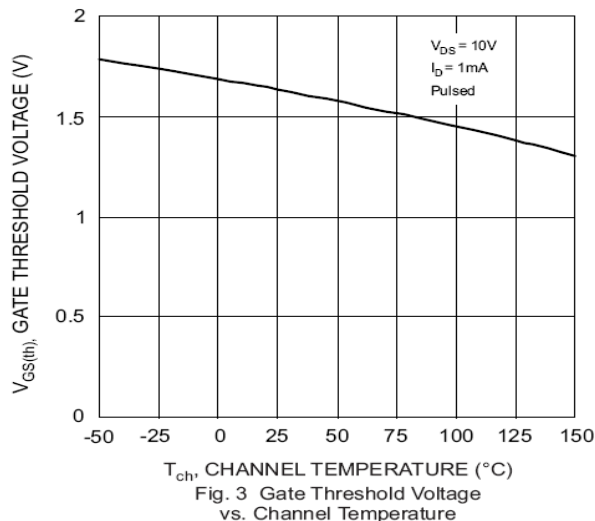
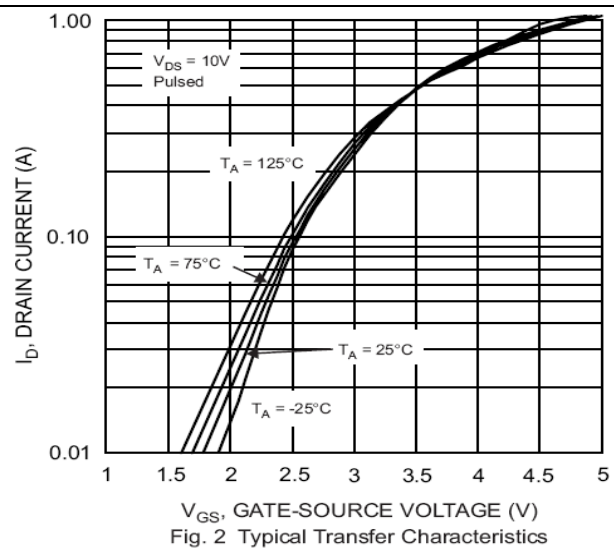
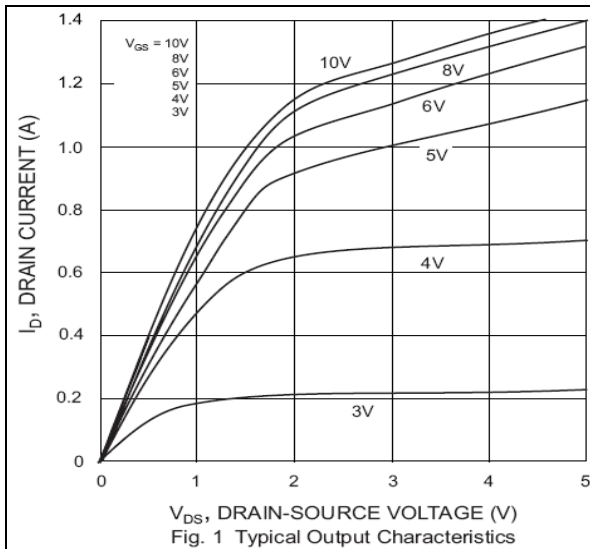
Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Drain Current (Note 1)	Continuous	I_D	300	mA
	Pulsed		800	
Total Power Dissipation		P_D	350	mW
Operating Junction Temperature Range		T_J	-55 to 150	$^{\circ}C$

Thermal Characteristics

Parameter		Symbol	Typ	Max	Units
Maximum Junction-to-Ambient A	$t \leq 5s$	$R_{\theta JA}$	357	-	$^{\circ}C/W$

Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF/ON CHARACTERISTICS (Note 2)						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D =10 μA, V _{GS} =0 V	60			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =60V, V _{GS} =0 V			1	μA
I _{GSS}	Gate-Body leakage current	V _{DS} =0 V, V _{GS} =±20 V			±10	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} I _D =250uA	1		2.5	V
R _{DS(ON)}	Static Drain-Source On-Resistance2	V _{GS} =10V, I _D =0.5A		2	-	Ω
		V _{GS} =5V, I _D =0.05A		3	-	Ω
Y _{fs}	Forward Transfer Admittance	V _{GS} = 10 V, I _S =0.2 A	80			ms
DYNAMIC PARAMETERS						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, f=1MHz			50	pF
C _{oss}	Output Capacitance				25	pF
C _{rss}	Reverse Transfer Capacitance				5	pF

Typical Characteristics

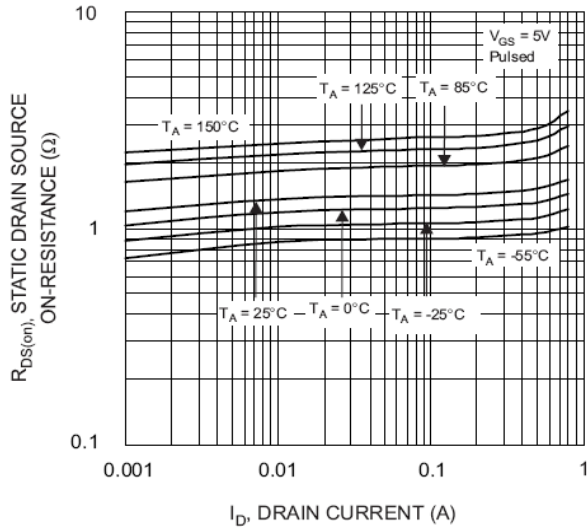


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

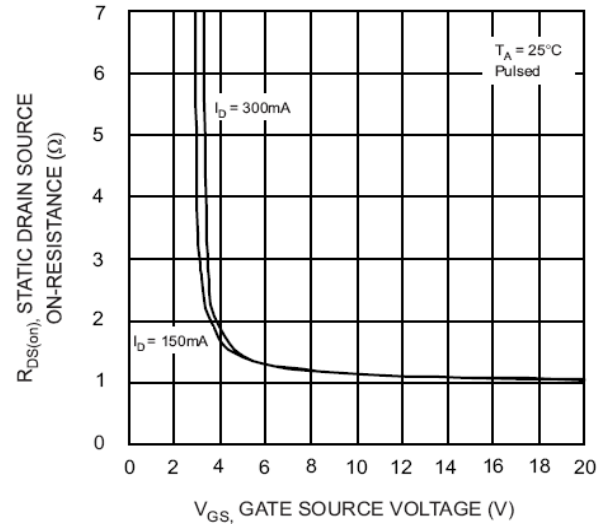


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

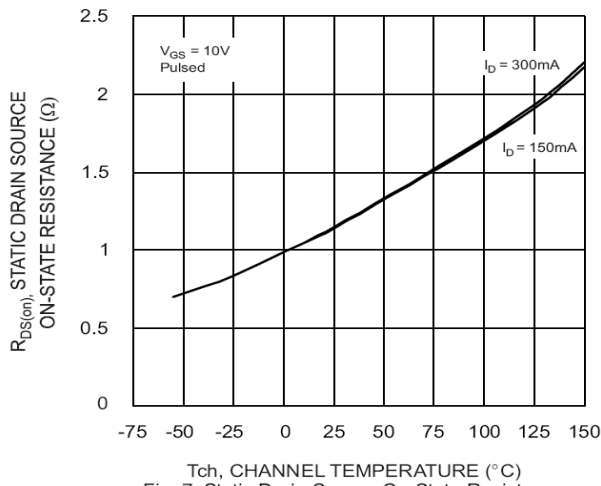


Fig. 7 Static Drain-Source On-State Resistance vs. Channel Temperature

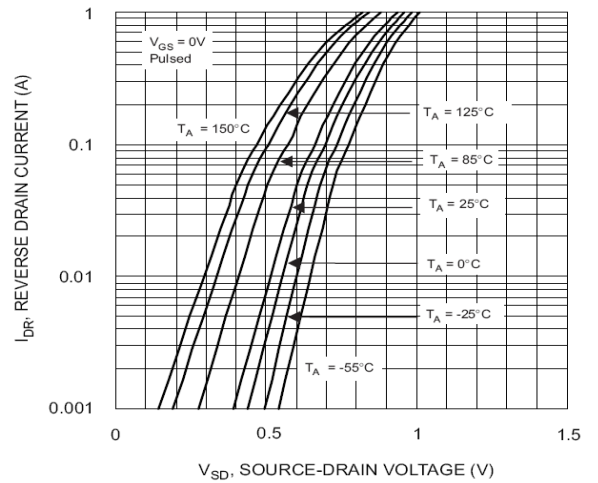


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

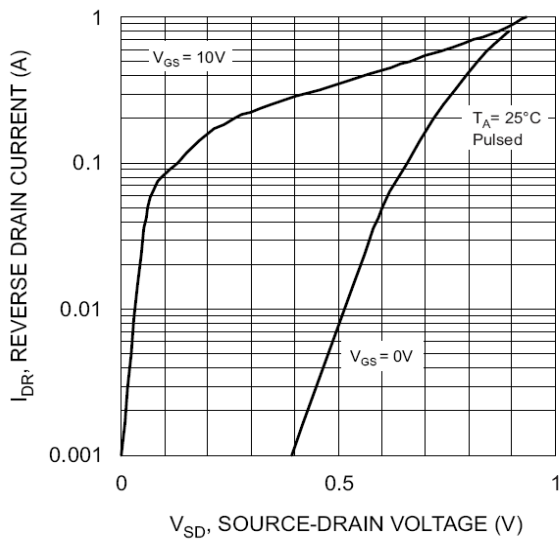


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

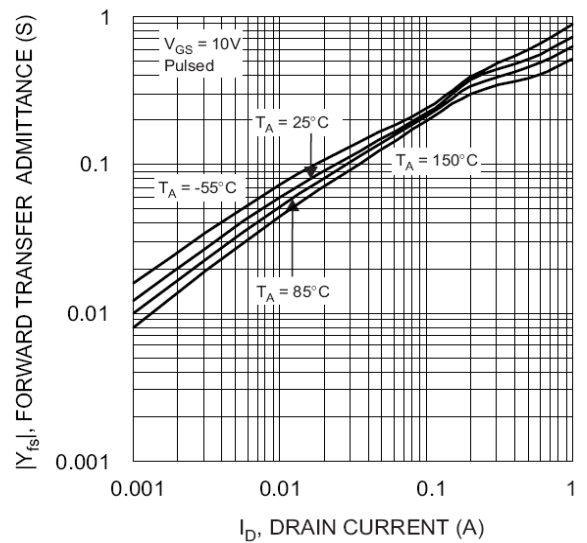
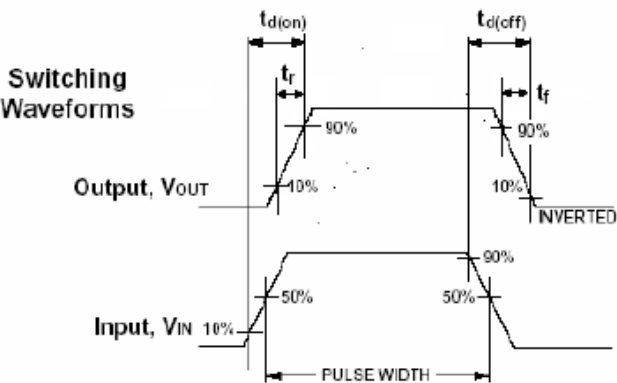
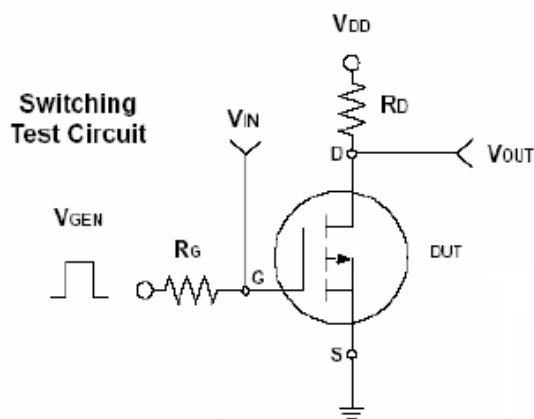


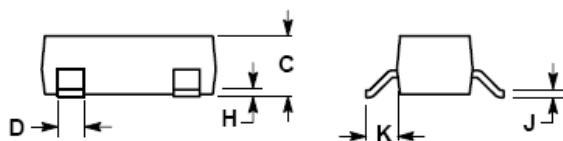
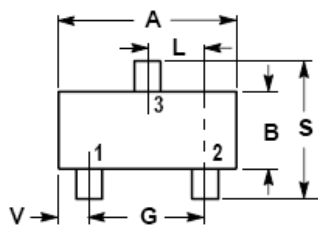
Fig. 10 Forward Transfer Admittance vs. Drain Current

Typical Characteristics



Packaging Information

SOT-23



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

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