

查询SD1102*供应商
TOPAZ
 SEMICONDUCTOR

**SD1102, SD1112,
SD1113**

N-CHANNEL ENHANCEMENT-MODE HIGH-VOLTAGE D-MOS POWER FETs

ORDERING INFORMATION

Sorted Chips in Carriers	SD1102CHP	SD1112CHP	SD1113CHP
TO-206AA (TO-18) Package	SD1102DD	SD1112DD	SD1113DD
TO-205AF (TO-39) Package	SD1102HD	SD1112HD	SD1113HD
TO-226AA (TO-92) Package	SD1102BD	SD1112BD	SD1113BD
Description	250V, 10 ohms	200V, 7.0 ohms	200V, 10 ohms

FEATURES

- Gate Stand-off, $\pm 40V$ min.
- Wide variety of Packages
- Low Drain-Source Off Leakage, $I_{DSS} < 200nA$

APPLICATIONS

- Motor Controls
- Line Drivers
- Power Supplies

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ C$ unless otherwise noted)

Drain-Source Voltage

SD1102	250V
SD1112, SD1113	200V

Drain-Gate Voltage

SD1102	250V
SD1112, SD1113	200V

Gate-Source Voltage

	$\pm 40V$
--	-----------

Continuous Drain Current

	$T_C = +100^\circ C$	$T_C = +25^\circ C$
SD1102BD, SD1113BD	.17A	.28A
SD1112BD	.20A	.33A
SD1102DD, SD1113DD	.20A	.32A
SD1112DD	.24A	.38A
SD1102HD, SD1113HD	.40A	.63A
SD1112HD	.48A	.76A

Peak Pulsed Drain Current 0.8A

Continuous Device Dissipation

	$T_C = +100^\circ C$	$T_C = +25^\circ C$
SD1102/1112/1113BD	0.5W	1.35W
SD1102/1112/1113DD	0.7W	1.80W
SD1102/1112/1113HD	2.75W	6.88W

Linear Derating Factor

	Junction to Ambient	Junction to Ambient
SD1102/1112/1113BD	6.66mW/ $^\circ C$	10.8mW/ $^\circ C$
SD1102/1112/1113DD	9.33mW/ $^\circ C$	14.4mW/ $^\circ C$
SD1102/1112/1113HD	36.6mW/ $^\circ C$	55mW/ $^\circ C$

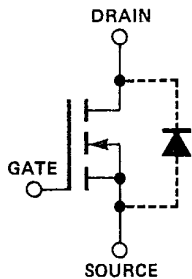
Operating Junction and

Storage Temperature Range $-55^\circ C$ to $+150^\circ C$

Lead Temperature (1/6" from mounting

surface for 10 Sec) $+260^\circ C$

PIN CONFIGURATIONS

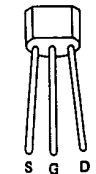


TO-205AF
(TO-39)



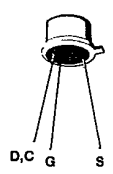
See Package 6

TO-226AA
(TO-92)



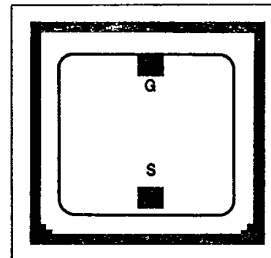
See Package 5

TO-206AA
(TO-18)



See Package 1

CHIP CONFIGURATION



Dimensions: .054 x .051 x .020 in.
Drain is backside contact.

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

#	CHARACTERISTIC		SD1102			SD1112, SD1113			UNIT	TEST CONDITION			
			MIN	TYP	MAX	MIN	TYP	MAX					
1	STATIC	BV _{DSS} Drain Source Breakdown Voltage	250	270		200	250		V	I _D = 10μA, V _{GS} = 0			
2		V _{GS(th)} Gate Source Threshold Voltage	1.0	3.0	5.0	1.0	3.0	5.0	V	V _{DS} = V _{GS} , I _D = 10μA			
3		I _{GSSF} Gate Forward Leakage Current		.03	10		.03	10	nA	V _{GS} = 20V	V _{DS} = 0		
4		I _{GSSR} Gate Reverse Leakage Current		-.03	-10		-.03	-10		V _{GS} = -20V			
5		I _{DSS} Drain-Source OFF Leakage Current		2.0	200				nA	V _{DS} = 200V	T _C = +125°C		
6					2.0				μA	V _{GS} = 0			
7							2.0	200	nA	V _{DS} = 160V			
8								2.0	μA	V _{GS} = 0			
9		I _{D(ON)} ON Drain Current ¹		0.8	1.0		0.5	1.0		A	V _{DS} = 25V, V _{GS} = 10V		
10		r _{DS(ON)} Drain-Source ON Resistance ⁽¹⁾	SD1102		6.6	10				ohms	V _{GS} = 10V I _D = 100mA	T _C = 125°C	
11					12	17							
12				SD1112				6.6	7.0				T _C = +125°C
13								10	11.9				
14					SD1113				6.6				
15						12	17	T _C = +125°C					
16	DYNAMIC	g _{fs} Common-Source Forward Transcond. ⁽¹⁾	200	300		200	300		mmhos	V _{DS} = 25V, I _D = 0.5A f = 1KHz			
17		C _{iss} Common-Source Input Capacitance		80	100		80	100	pF	V _{DS} = 25V, V _{GS} = 0 f = 1MHz			
18		C _{rss} Common-Source Reverse Transfer Capacitance		1.3	2.5		1.3	2.5					
19		C _{oss} Common-Source Output Capacitance		10.5	15		10.5	15					
20		t _{on} Turn ON Time			10			10				ns	V _{DD} = 60V, V _{G(on)} = 10V R _G = 51Ω, R _L = 68Ω
21		t _{off} Turn OFF Time			18			18					

Note 1: Pulse Test 80 μSec , 1% Duty Cycle

TYPICAL PERFORMANCE CHARACTERISTICS ($T_C = +25^\circ\text{C}$ unless otherwise specified)
