



T-29-25  
**SD1100, SD1101**

**N-CHANNEL ENHANCEMENT-MODE  
HIGH-VOLTAGE D-MOS POWER FETS**

**ORDERING INFORMATION**

Sorted Chips In Conductive Waffle Pack	SD1100CHP	SD1101CHP
TO-226AA (TO-92) Package	—	SD1101BD
TO-206AA (TO-18) Package	SD1100DD	SD1101DD
TO-205AF (TO-39) Package	SD1100HD	SD1101HD
Description	450V, 35 ohm	400V, 25 ohm

**FEATURES**

- Gate Stand-off,  $\pm 40V$  min.
- P-channel complements available, VP0540 series
- Wide variety of Packages

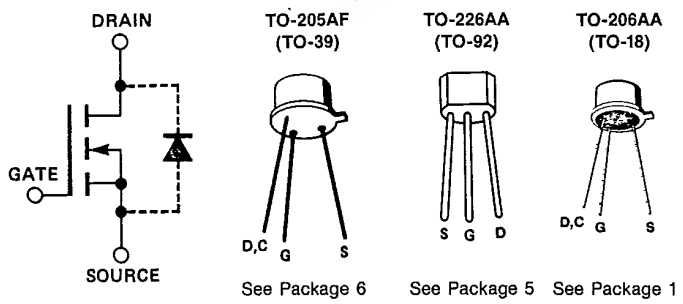
**APPLICATIONS**

- Motor Controls
- Line Drivers
- Power Supplies

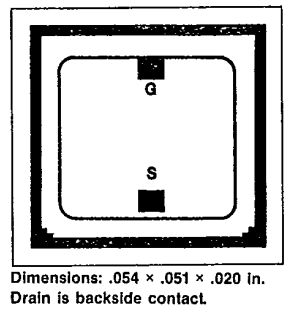
**ABSOLUTE MAXIMUM RATINGS** ( $T_C = +25^\circ C$  unless otherwise noted)

Drain-Source Voltage		Maximum Power Dissipation	
SD1100	450V	HD, TO-39 Pkg.	$T_C = +100^\circ C$ 2.75W
SD1101	400V	BD, TO-92 Pkg.	$T_C = +25^\circ C$ 6.88W
Drain-Gate Voltage ( $R_{GS} = 1M\Omega$ )		DD, TO-18 Pkg.	0.5W
SD1100	450V	Linear Derating Factor	0.7W
SD1101	400V	Junction to Ambient	1.80W
Gate-Source Voltage			
Continuous Drain Current			
	$T_C = +100^\circ C$		
SD1100DD	.10A	HD, TO-39 Pkg.	36.6
SD1100HD	.21A	BD, TO-92 Pkg.	6.66
SD1101BD	.11A	DD, TO-18 Pkg.	9.33
SD1101DD	.13A	Operating Junction and	
SD1101HD	.26A	Storage Temperature Range	-55°C to +150°C
Peak Pulsed Drain Current	0.25A	Lead Temperature (1/8" from mounting	
		surface for 10 Sec)	+260°C

**PIN CONFIGURATIONS**



**CHIP CONFIGURATION**





# SD1100, SD1101

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

#	CHARACTERISTIC		SD1100			SD1101			UNIT	TEST CONDITIONS		
			MIN	TYP	MAX	MIN	TYP	MAX				
1	$BV_{DSS}$	Drain Source Breakdown Voltage	450	475		400	425		V	$I_D = 10\mu\text{A}, V_{GS} = 0$		
2	$I_{GSSF}$	Gate Forward Leakage Current		.03	10		.03	10	nA	$V_{GS} = 20\text{V}$	$V_{DS} = 0$	
3	$I_{GSSR}$	Gate Reverse Leakage Current		-.03	-10		-.03	-10	nA	$V_{GS} = -20\text{V}$		
4	$I_{DSS}$	Drain-Source OFF Leakage Current		2.0	200				nA	$V_{DS} = 360\text{V}$	$T_C = +125^\circ\text{C}$	
5					2.0				$\mu\text{A}$	$V_{GS} = 0$		
6								2.0	200	nA		$V_{DS} = 320\text{V}$
7								2.0	$\mu\text{A}$	$V_{GS} = 0$		
8	$V_{GS(th)}$	Gate Source Threshold Voltage	1.0	3.0	5.0	1.0	3.0	5.0	V	$I_D = 10\mu\text{A}, V_{DS} = V_{GS}$		
9	$I_{D(ON)}$	ON Drain Current <sup>(1)</sup>	250	750		250	750		mA	$V_{DS} = 25\text{V}, V_{GS} = 10\text{V}$		
10	$r_{DS(ON)}$	Drain-Source ON Resistance <sup>(1)</sup>		13	35		13	25	ohms	$V_{GS} = 10\text{V}$	$T_C = 125^\circ\text{C}$	
11				19	60		19	42		$I_D = 10\text{mA}$		
12	$g_{fs}$	Forward Transconductance <sup>(1)</sup>	250	400		250	400			$V_{DS} = 25\text{V}, I_D = 250\text{mA}$ $f = 1\text{KHz}$		
17	DYNAMIC	$C_{iss}$	Common-Source Input Capacitance			80	100			$V_{DS} = 25\text{V}, V_{GS} = 0$ $f = 1\text{MHz}$		
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

Note 1: Pulse Test 80 $\mu\text{Sec}$ , 1% Duty Cycle

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

