

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Drain Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±10	V
Drain Current (Note 5)	I _D	400	mA

Thermal Characteristics

Total Power Dissipation (Note 5)	P _D	450	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	313	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 6)							
Drain-Source Breakdown Voltage		BV _{DSS}	30	—	—	V	V _{GS} = 0V, I _D = 250μA
Zero Gate Voltage Drain Current @T _J = +25°C		I _{DSS}	—	—	1	μA	V _{DS} = 30V, V _{GS} = 0V
Gate-Body Leakage @T _J = +25°C		I _{GSS}	—	— — ±1	±10 ±500 ±100	μA nA nA	V _{GS} = ±10V, V _{DS} = 0V V _{GS} = ±5V, V _{DS} = 0V V _{GS} = ±2.5V, V _{DS} = 0V
Gate-Body Leakage (Note 7) @T _J = +105°C @T _J = +125°C		I _{GSS}	—	±8 ±15	±100 ±100	nA nA	V _{GS} = ±2.5V, V _{DS} = 0V
ON CHARACTERISTICS (Note 6)							
Gate Threshold Voltage		V _{GS(TH)}	0.6	—	1.2	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance		R _{DS(ON)}	— — —	— — —	2.2 1.5 1.2	Ω	V _{GS} = 1.8V, I _D = 20mA V _{GS} = 2.5V, I _D = 20mA V _{GS} = 4.0V, I _D = 100mA
Forward Transconductance		Y _{FS}	100	—	—	mS	V _{DS} =10V, I _D = 0.1A
Source-Drain Diode Forward Voltage		V _{SD}	0.5	—	1.4	V	V _{GS} = 0V, I _S = 115mA
DYNAMIC CHARACTERISTICS (Note 7)							
Input Capacitance		C _{ISS}	—	39	—	pF	V _{DS} = 3V, V _{GS} = 0V f = 1.0MHz
Output Capacitance		C _{OSS}	—	10	—	pF	
Reverse Transfer Capacitance		C _{RSS}	—	3.6	—	pF	
Switching Time	Turn-On Time	t _{ON}	—	11	—	ns	V _{DD} = 5V, I _D = 10 mA, V _{GS} = 5V
	Turn-Off Time	t _{OFF}	—	51	—	ns	

- Notes: 5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found at <http://www.diodes.com/datasheets/ap02001.pdf>.
6. Short duration pulse test used to minimize self-heating effect.
7. Guaranteed by design. Not subject to production testing.

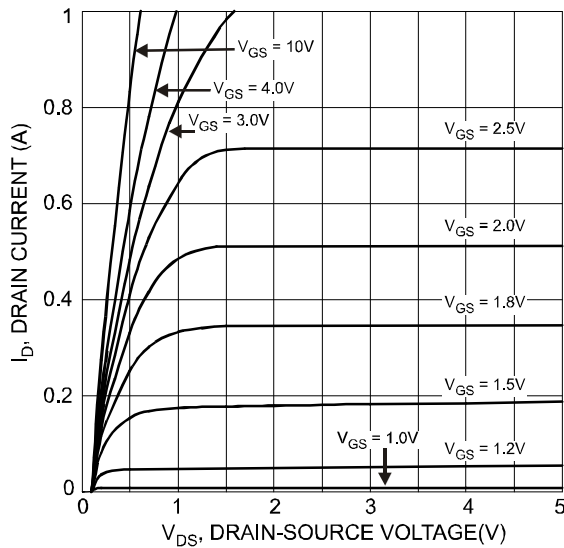


Fig. 1 Typical Output Characteristics

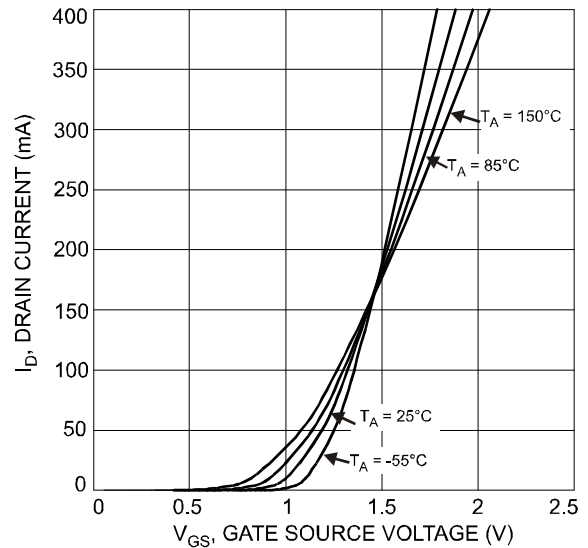


Fig. 2 Typical Transfer Characteristics

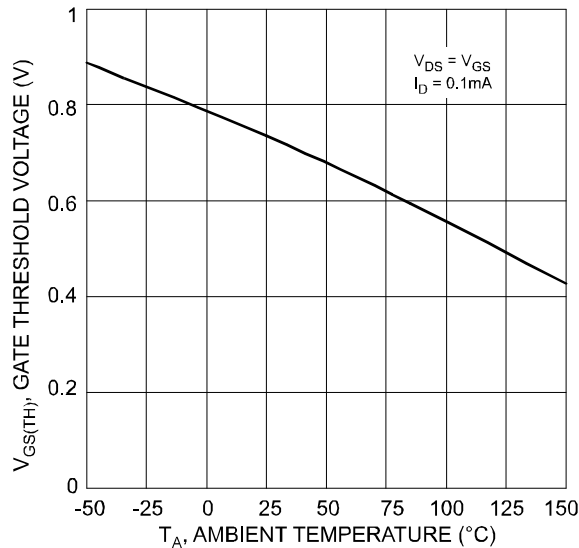


Fig. 3 Gate Threshold Voltage vs. Ambient Temperature

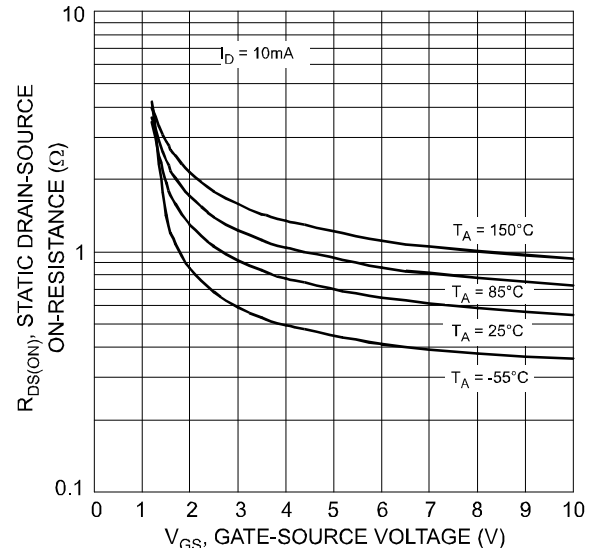


Fig. 4 Static Drain-Source On-Resistance vs. Gate-Source Voltage

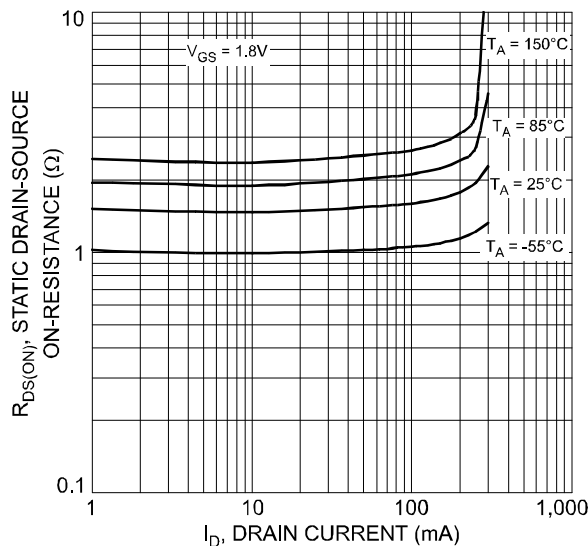


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

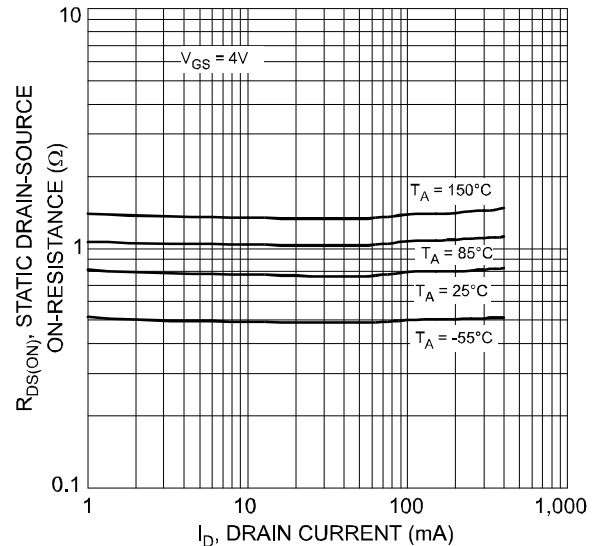


Fig. 6 Static Drain-Source On-Resistance vs. Drain Current

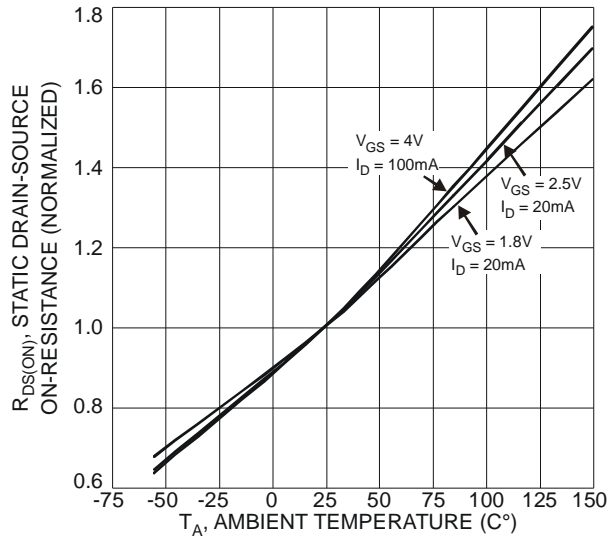


Fig. 7 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

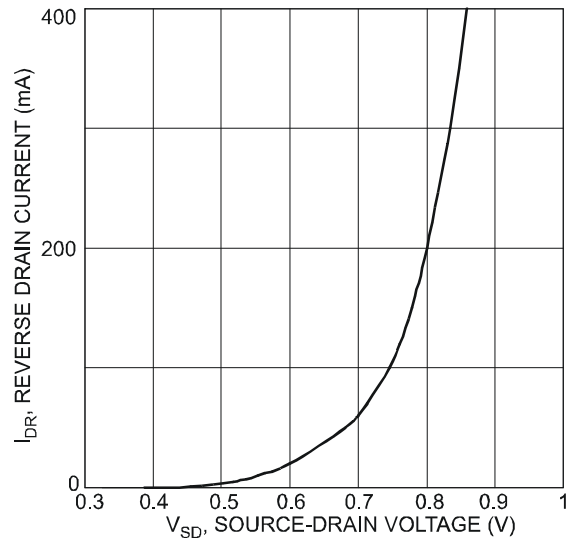


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

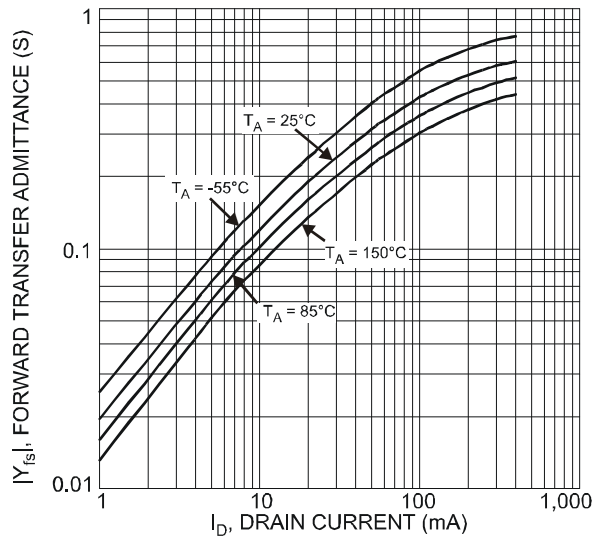


Fig. 9 Forward Transfer Admittance vs. Drain Current

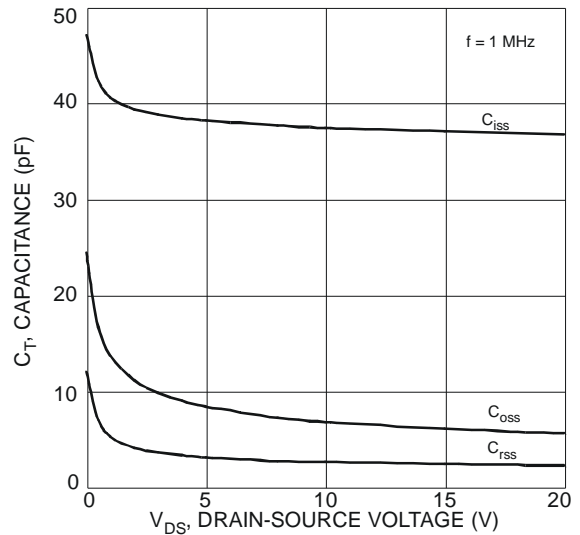


Fig. 10 Typical Capacitance

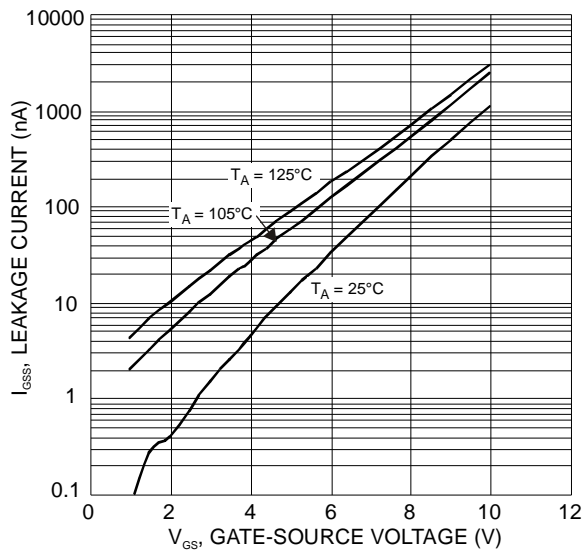


Fig. 11 Gate-Source Leakage Current vs Voltage

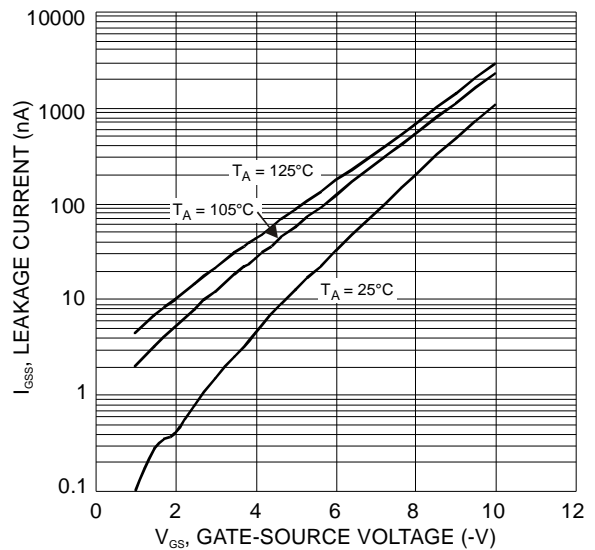
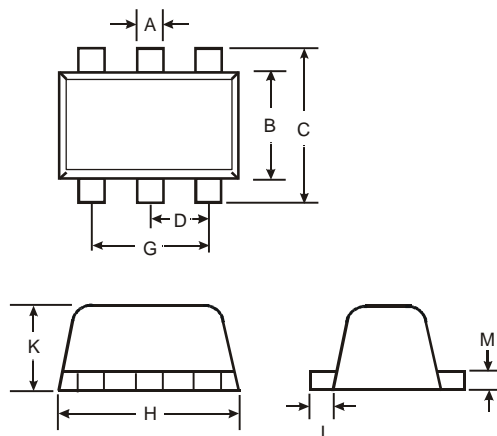


Fig. 12 Gate-Source Leakage Current vs Voltage

Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.

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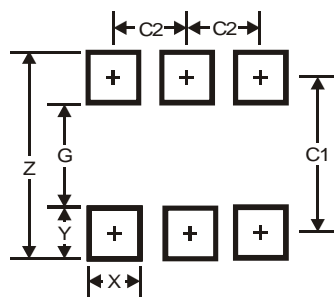


SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.

SOT563



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C1	1.7
C2	0.5

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