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

Characteristic		Symbol	Value	Units
Drain-Source Voltage		V_{DSS}	60	V
Drain-Gate Voltage $R_{GS} \leq 1.0M\Omega$		V_{DGR}	60	V
Gate-Source Voltage	Continuous Pulsed	V_{GSS}	±20 ±40	V
Drain Current (Note 6)	Continuous Pulsed	I_D	500 800	mA

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

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 6)	P_D	300 1.80	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	K/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 7)						
Drain-Source Breakdown Voltage	BV_{DSS}	60	70	—	V	V_{GS} = 0V, I_D = 100µA
Zero Gate Voltage Drain Current	I_{DSS}	—	—	1.0	µA	V_{DS} = 60V, V_{GS} = 0V
Gate-Body Leakage	I_{GSS}	—	—	±10	nA	V_{GS} = ±15V, V_{DS} = 0V
ON CHARACTERISTICS (Note 7)						
Gate Threshold Voltage	$V_{GS(th)}$	0.8	2.1	3.0	V	V_{DS} = V_{GS}, I_D = 250µA
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	— —	— —	5.0 5.3	Ω	V_{GS} = 10V, I_D = 200mA V_{GS} = 4.5V, I_D = 50mA
Forward Transconductance	g_{FS}	80	—	—	mS	V_{DS} =10V, I_D = 0.2A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	22	40	pF	V_{DS} = 10V, V_{GS} = 0V, f = 1.0MHz
Output Capacitance	C_{oss}	—	11	30	pF	
Reverse Transfer Capacitance	C_{rss}	—	2.0	5.0	pF	
SWITCHING CHARACTERISTICS						
Turn-On Time	t_{on}	—	—	10	ns	V_{DD} = 25V, I_D = 0.5A,
Turn-Off Time	t_{off}	—	—	10	ns	V_{GS} = 10V, R_{GEN} = 50Ω

Notes: 6. Device mounted on FR-4 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com.
7. Short duration pulse test used to minimize self-heating effect.

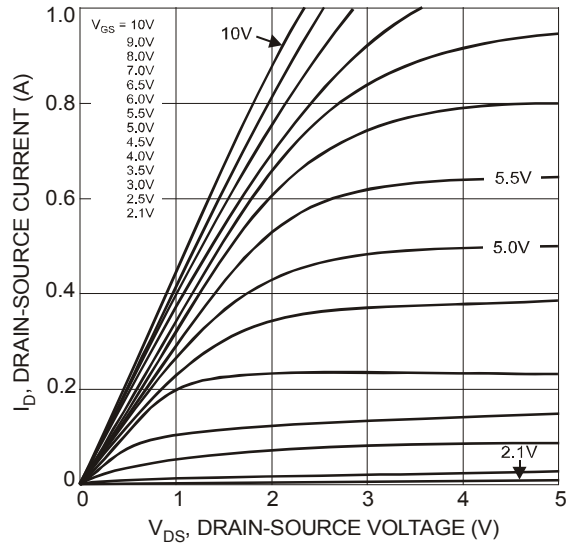


Fig. 1 On-Region Characteristics

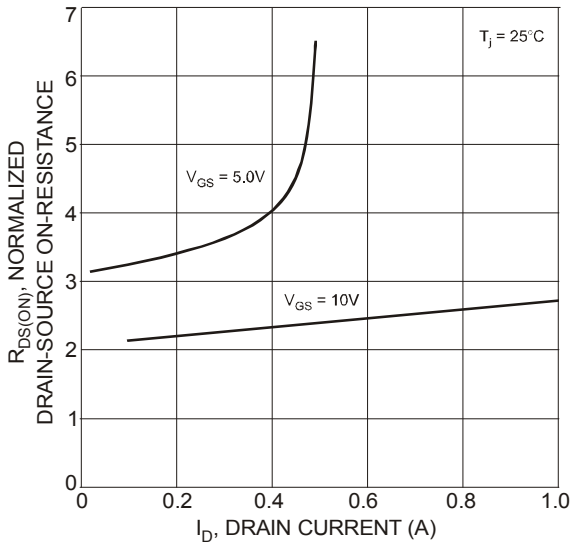


Fig. 2 On-Resistance vs. Drain Current

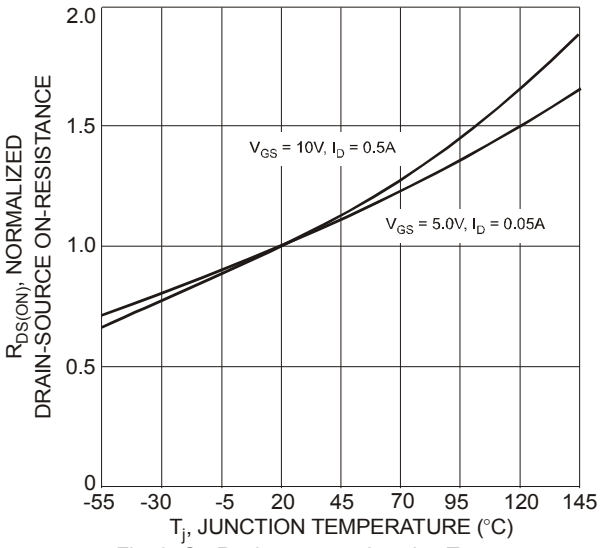


Fig. 3 On-Resistance vs. Junction Temperature

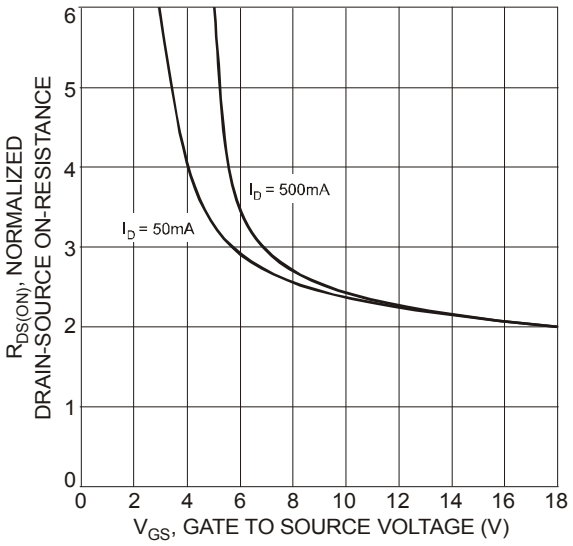


Fig. 4 On-Resistance vs. Gate-Source Voltage

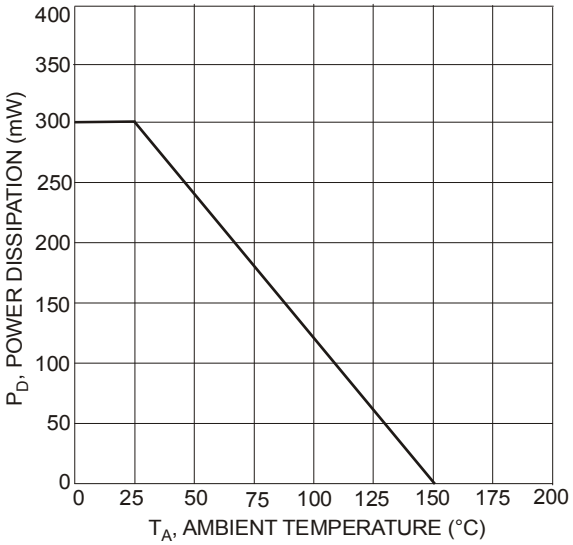
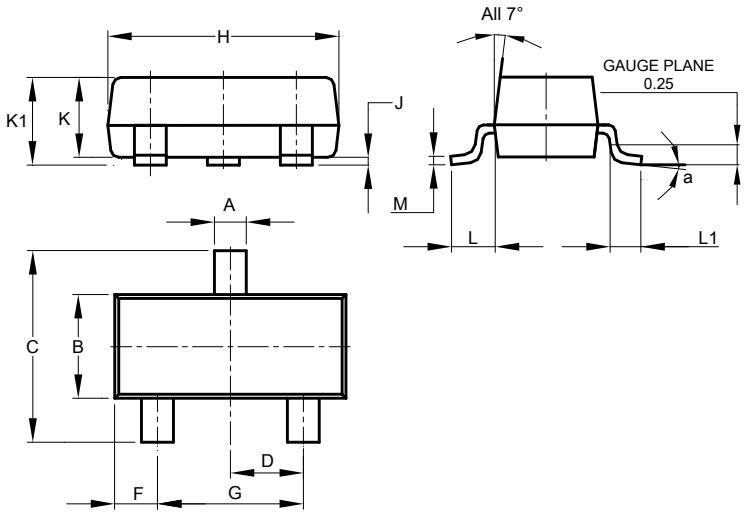


Fig. 5 Max Power Dissipation vs. Ambient Temperature

Package Outline Dimensions

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

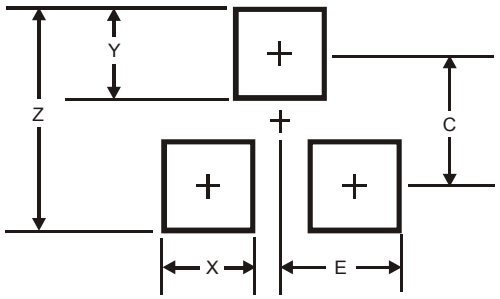


SOT23			
Dim	**Min**	**Max**	**Typ**
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	8°		
All Dimensions in mm			

Suggested Pad Layout

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

SOT23



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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