

**Features**

$V_{(BR)DSS}$	$R_{DS(ON)}$ max	$I_D$ max $T_A = +25^\circ\text{C}$
-20V	150m $\Omega$ @ $V_{GS} = -4.5\text{V}$	-1.9A
	200m $\Omega$ @ $V_{GS} = -2.5\text{V}$	-1.7A

**Application**

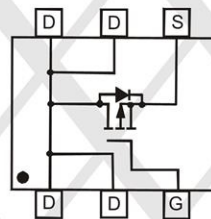
- Notebook
- Load Switch
- Networking
- Hand-held Instruments

**Package and Pin Configuration**

SOT-563

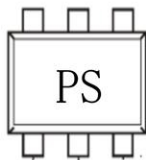


Top View



Top View  
Internal Schematic

**Marking:**



**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$  unless otherwise specified.)

Characteristic			Symbol	Value	Units
Drain-Source Voltage			$V_{DSS}$	-20	V
Gate-Source Voltage			$V_{GSS}$	$\pm 12$	V
Continuous Drain Current (Note 5) $V_{GS} = -4.5\text{V}$	Steady State	$T_A = +25^\circ\text{C}$ $T_A = +70^\circ\text{C}$	$I_D$	-1.9 -1.5	A
Continuous Drain Current (Note 5) $V_{GS} = -4.5\text{V}$	$t \leq 5\text{s}$	$T_A = +25^\circ\text{C}$ $T_A = +70^\circ\text{C}$	$I_D$	-2.1 -1.65	A
Continuous Drain Current (Note 5) $V_{GS} = -2.5\text{V}$	Steady State	$T_A = +25^\circ\text{C}$ $T_A = +70^\circ\text{C}$	$I_D$	-1.7 -1.3	A
Pulsed Drain Current	$t_p = 10\mu\text{s}$		$I_{DM}$	-4.0	A

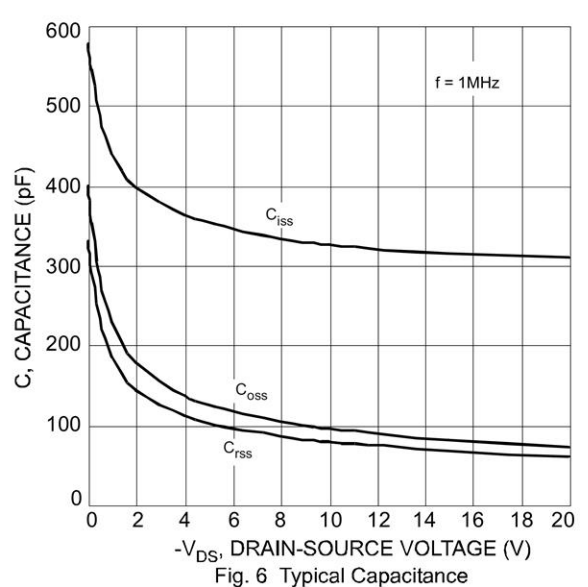
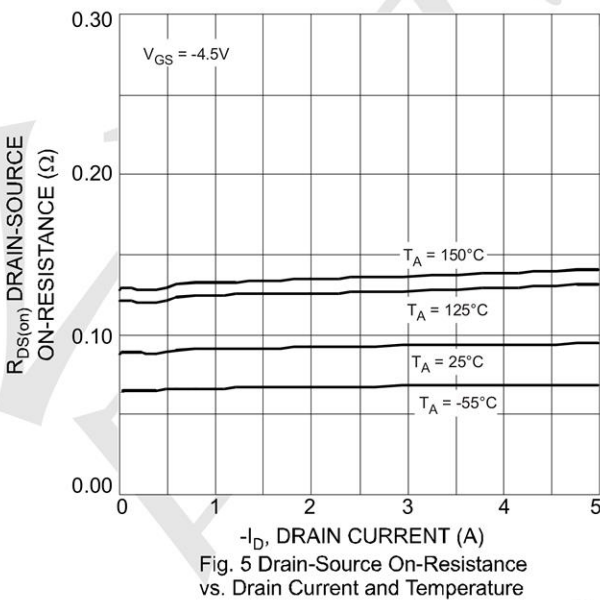
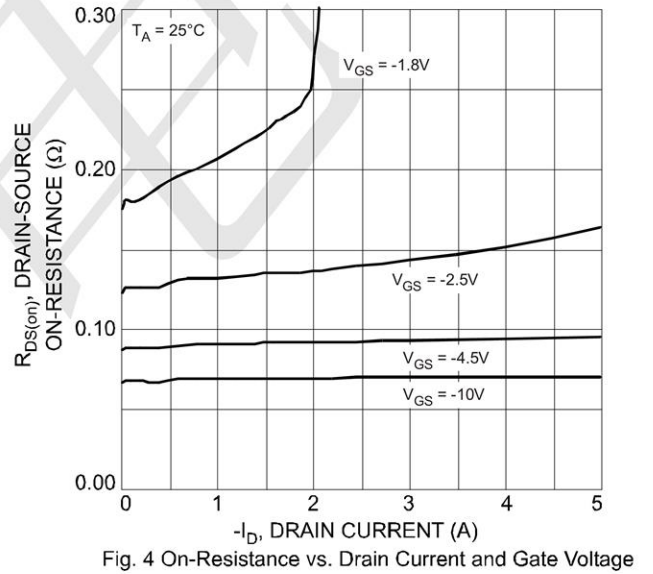
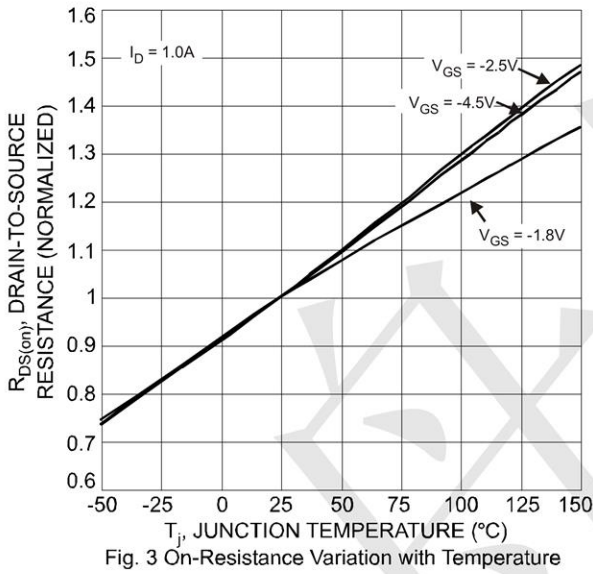
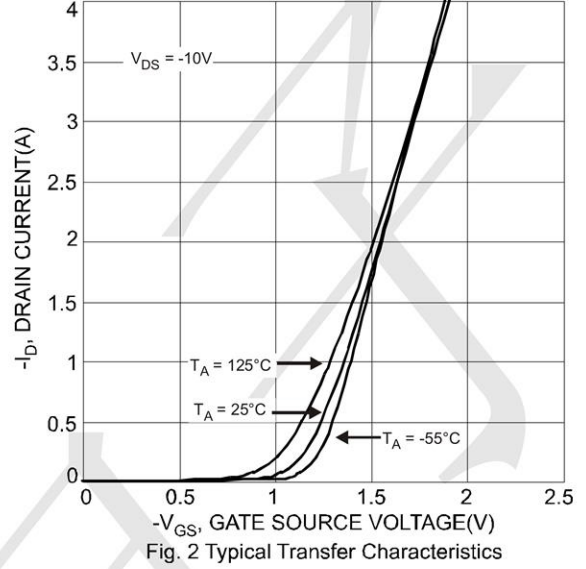
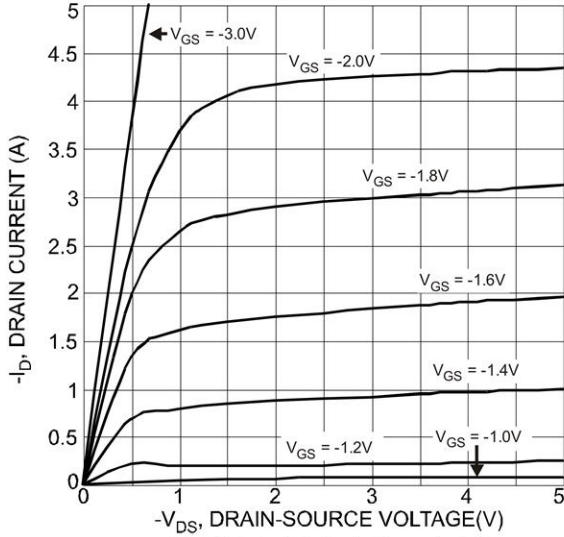
**Thermal Characteristics**

Characteristic	Symbol	Value	Units
Power Dissipation (Note 5)	$P_D$	0.85	W
Thermal Resistance, Junction to Ambient @ $T_A = +25^\circ\text{C}$ (Note 5)	$R_{\theta JA}$	146	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$  unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 6)</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	-20	—	—	V	$V_{GS} = 0V, I_D = -250\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	—	—	-1.0 -5.0	$\mu A$	$T_J = +25^\circ C$ $T_J = +125^\circ C$ $V_{DS} = -20V, V_{GS} = 0V$
Gate-Source Leakage	$I_{GSS}$	—	—	$\pm 100$	nA	$V_{GS} = \pm 12V, V_{DS} = 0V$
<b>ON CHARACTERISTICS (Note 6)</b>						
Gate Threshold Voltage	$V_{GS(th)}$	-0.45	—	-1.0	V	$V_{DS} = V_{GS}, I_D = -250\mu A$
Static Drain-Source On-Resistance	$R_{DS(on)}$	—	92	150	m $\Omega$	$V_{GS} = -4.5V, I_D = -950mA$
			134	200		$V_{GS} = -2.5V, I_D = -670mA$
			180	240		$V_{GS} = -1.8V, I_D = -200mA$
Forward Transconductance	$g_{FS}$	—	3.1	—	S	$V_{DS} = -10V, I_D = -810mA$
Diode Forward Voltage (Note 6)	$V_{SD}$	—	—	-0.9	V	$V_{GS} = 0V, I_S = -360mA$
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$C_{iss}$	—	320	—	pF	$V_{DS} = -16V, V_{GS} = 0V$ $f = 1.0MHz$
Output Capacitance	$C_{oss}$	—	80	—	pF	
Reverse Transfer Capacitance	$C_{rss}$	—	60	—	pF	

**Typical Electrical and Thermal Characteristics**



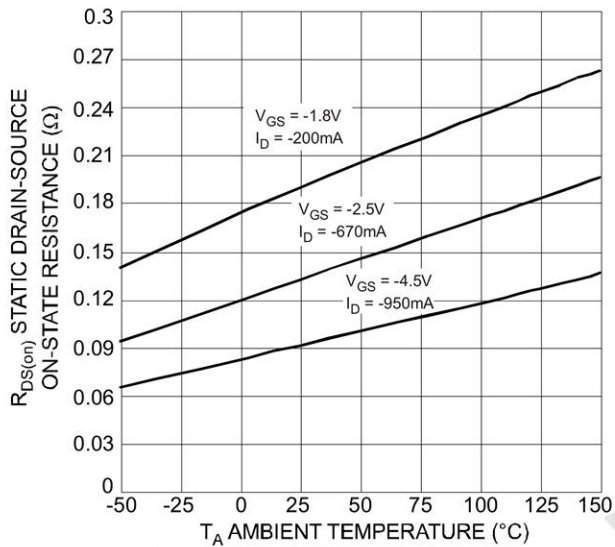


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

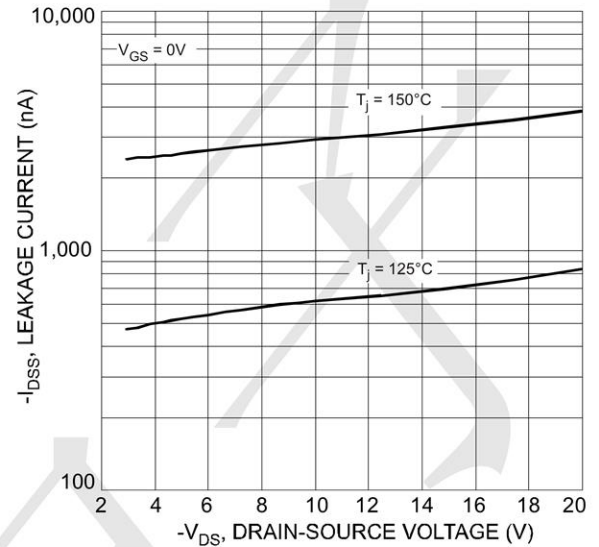


Fig. 8 Drain-Source Leakage Current vs. Voltage

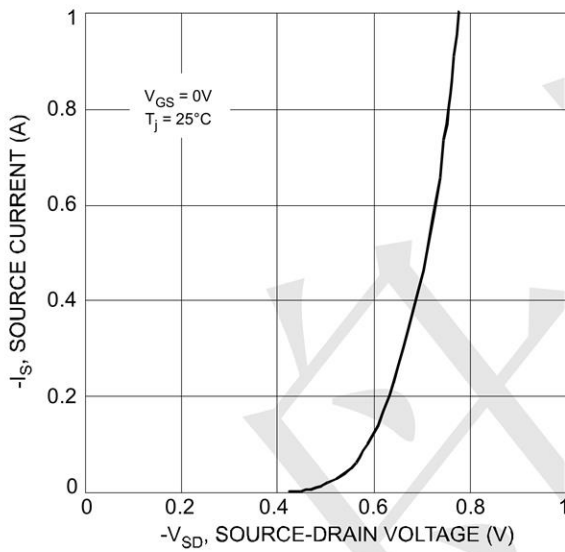
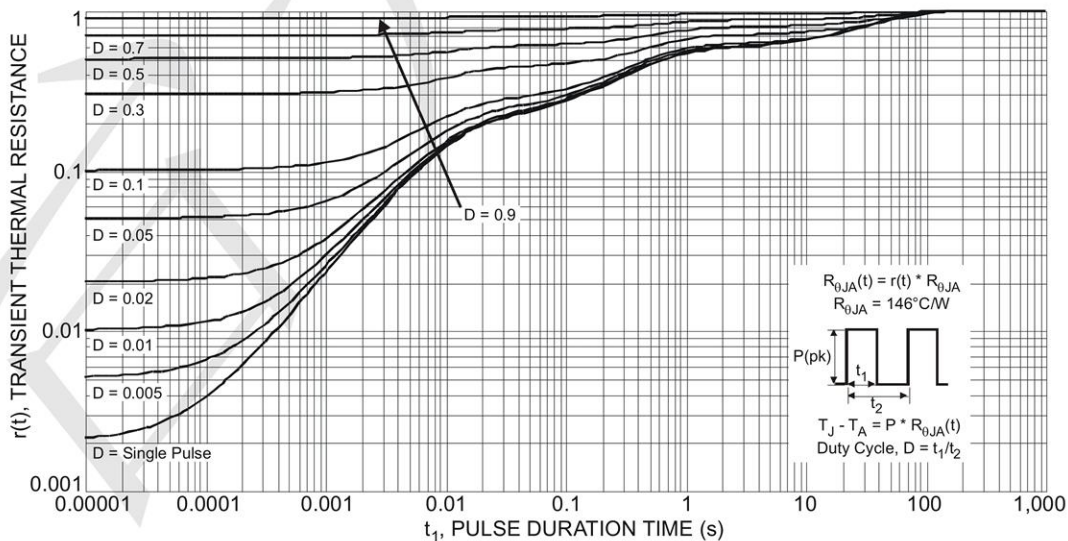
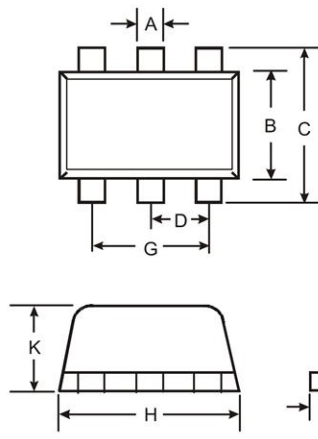


Fig. 9 Diode Forward Voltage vs. Current

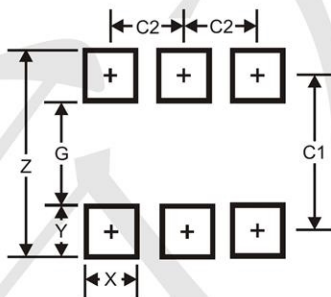


**SOT-563 Package Outline Drawing**



SOT563			
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**



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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