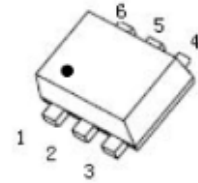


MOSFET (Dual N-Channel)

SOT-563

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	$5\Omega @ 10V$	115mA
	$7\Omega @ 5V$	



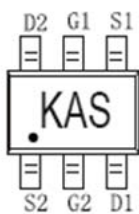
FEATURE

- Dual N-channel MOSFET
- Low on-resistance
- Low gate threshold voltage
- Low input capacitance
- Fast switching speed
- Low input/output leakage

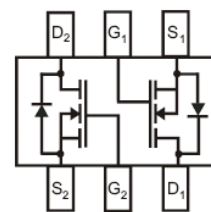
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source voltage	60	V
V_{GS}	Gate-Source voltage	20	V
I_D	Drain Current	115	mA
P_D	Power Dissipation	150	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

**MOSFET ELECTRICAL CHARACTERISTICS** $T_a=25^{\circ}\text{C}$ unless otherwise specified

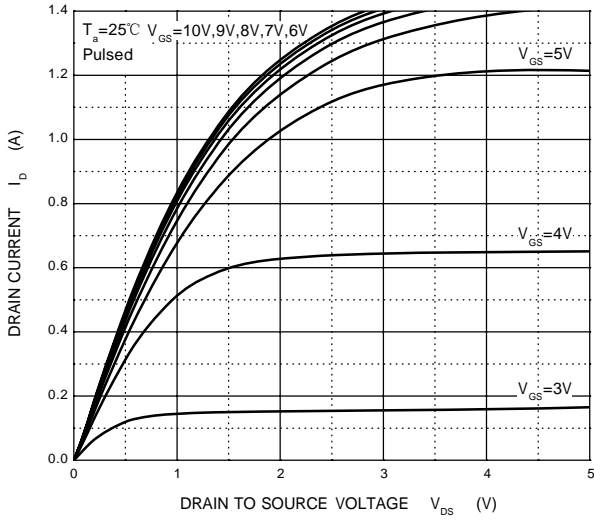
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=250\ \mu\text{A}$	60			V
Gate - Threshold Voltage	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1	1.6	2.5	
Gate - body Leakage	I_{GSS}	$V_{DS}=0\text{ V}, V_{GS}=\pm 20\text{ V}$			± 80	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
On - state Drain Current	$I_{D(ON)}$	$V_{GS}=10\text{ V}, V_{DS}=7\text{ V}$	500			mA
Drain - Source On - Resistance	$r_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{mA}$		0.9	5	Ω
		$V_{GS}=5\text{ V}, I_D=50\text{mA}$		1.1	7	
Forward Trans conductance	g_{fs}	$V_{DS}=10\text{ V}, I_D=200\text{mA}$	80			mS
Drain - source on - voltage	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			3.75	V
		$V_{GS}=5\text{V}, I_D=50\text{mA}$			0.375	V
Diode Forward Voltage	V_{SD}	$I_S=115\text{mA}, V_{GS}=0\text{ V}$	0.55		1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			50	pF
Output Capacitance	C_{OSS}				25	
Reverse Transfer Capacitance	C_{rSS}				5	

SWITCHING TIME

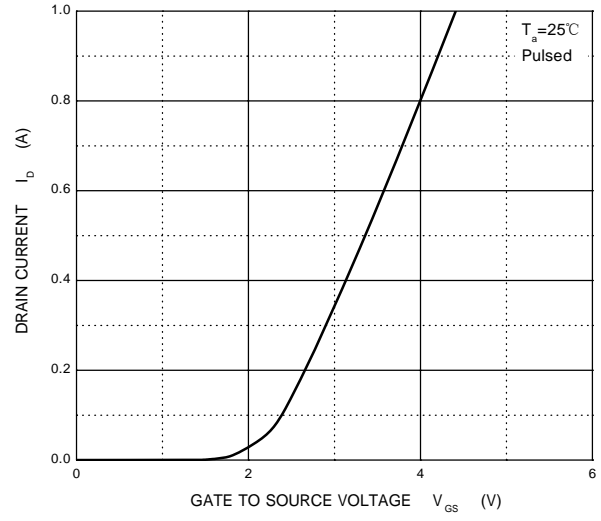
Turn - on Time	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\Omega$ $I_D=500\text{mA}, V_{GEN}=10\text{ V}$ $R_G=25\ \Omega$			20	ns
Turn - off Time	$t_{d(off)}$				40	

TYPICAL ELECTRICAL CHARACTERISTICS

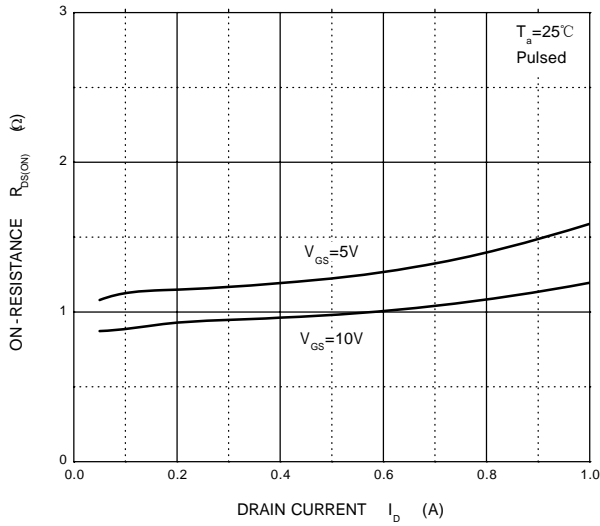
Output Characteristics



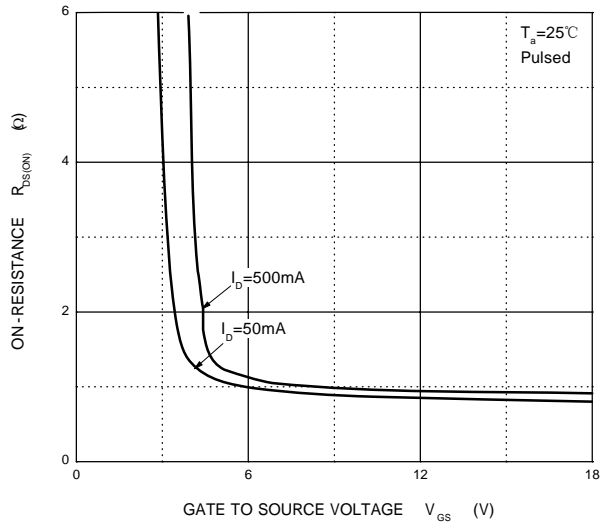
Transfer Characteristics



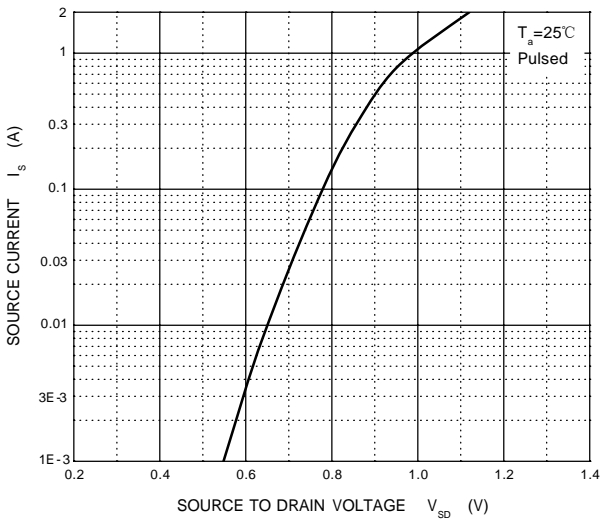
$R_{DS(ON)}$ — I_D



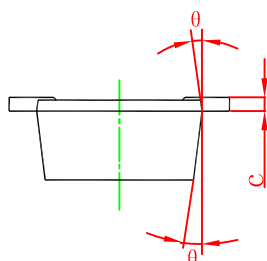
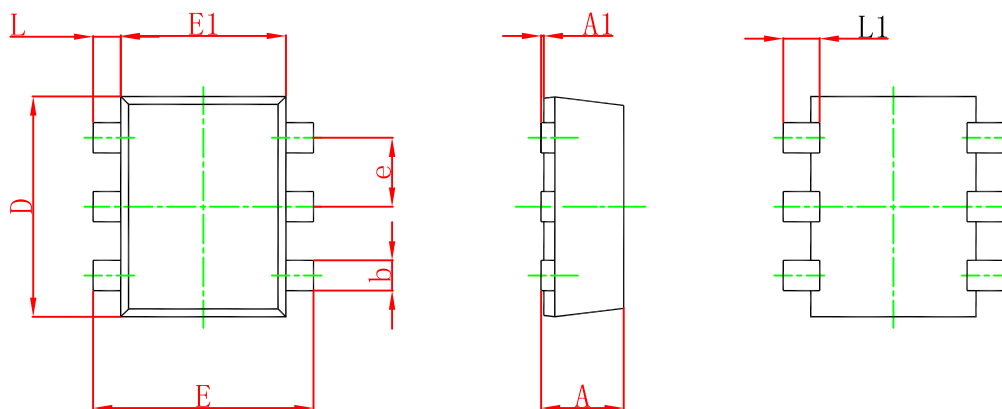
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

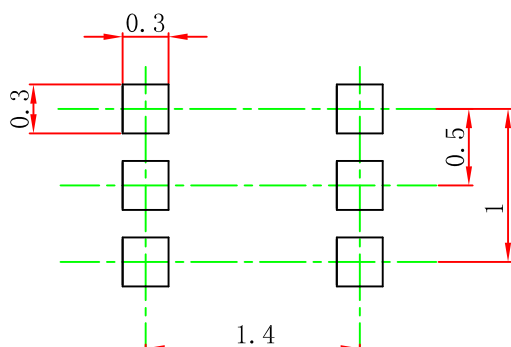


SOT-563 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
L1	0.200	0.400	0.008	0.016
θ	7 °REF.		7 °REF.	

SOT-563 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.