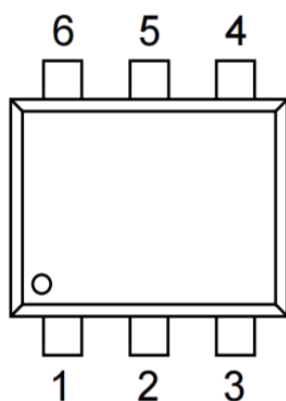


Product Summary

- V_{DS} 30 V
- I_{DS} 100mA
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) $\leq 3.6\Omega$
- $R_{DS(ON)}$ (at $V_{GS}=2.5V$) $\leq 6.0\Omega$

Package and Pin Configuration

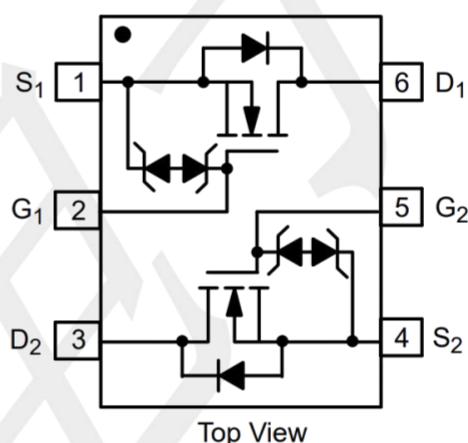


SOT-563

Application

- Reverse Battery protection
- Load switch
- Power management
- Motor Control

Circuit diagram



Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	100	mA
Pulsed Drain Current (t = 100 μ s)	I_{DM}	400	mA
Total Power Dissipation	P_{DTOT}	150	mW
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

Thermal Characteristic

PARAMETER	Symbol	Value	Unit
Junction-to-Ambient Thermal Resistance	R_{thJA}	833	°C/W

Note : When mounted on 1" square PCB (FR4 material).

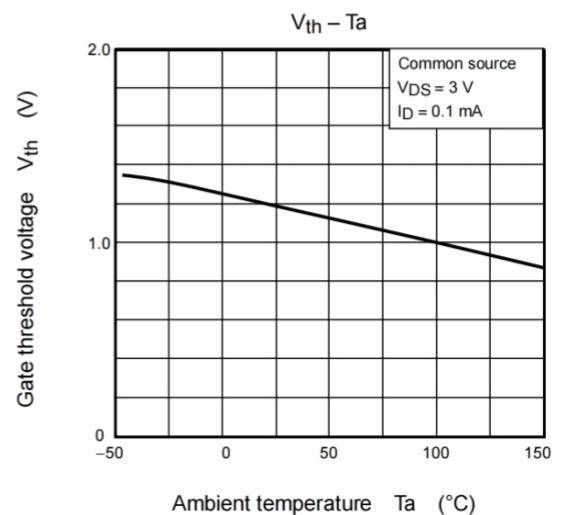
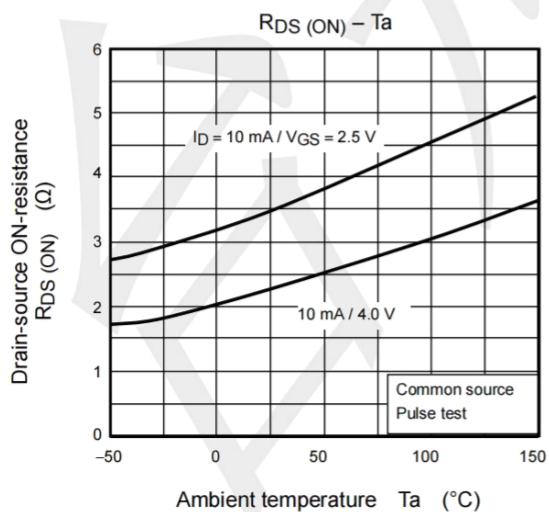
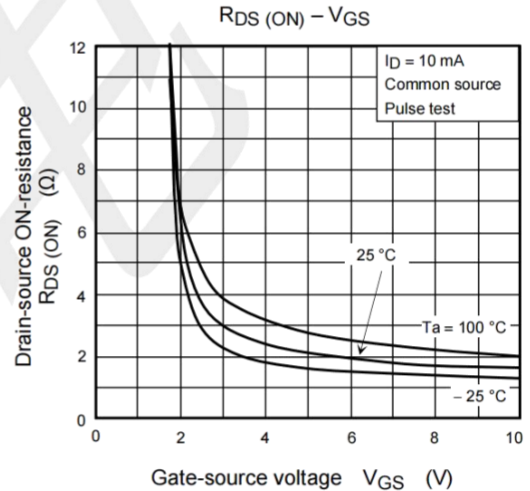
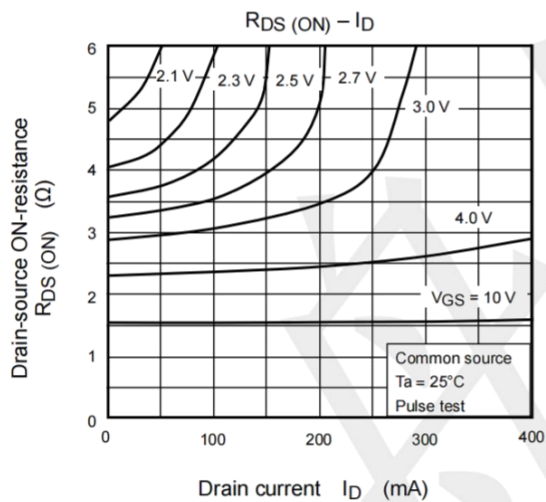
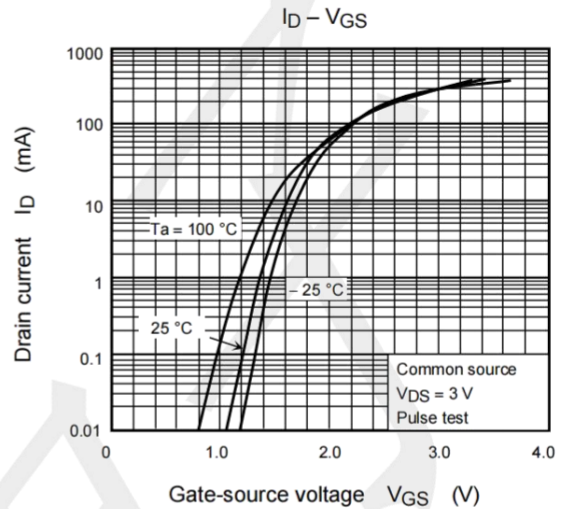
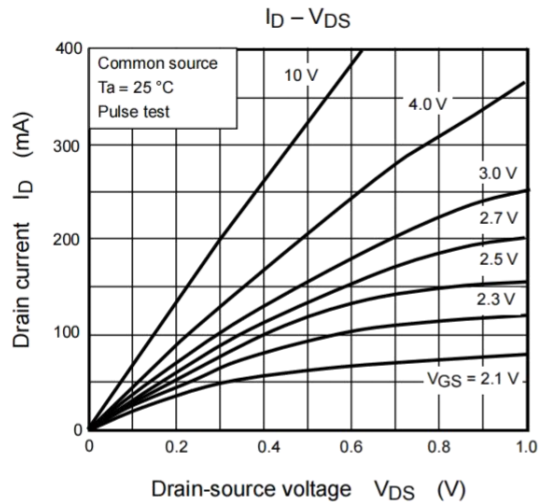
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=0.1mA$	BV_{DSS}	30	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=0.1mA$	$V_{GS(th)}$	0.8	--	1.5	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}= \pm 16V$	I_{GSS}	--	--	± 10	μA
Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$	I_{DSS}	--	--	1	μA
	$V_{DS}=30V, T_J=125^{\circ}C$		--	--	50	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}=4.5V, I_D=10mA$	$R_{DS(on)}$	--	2.3	3.6	Ω
	$V_{GS}=2.5V, I_D=10mA$		--	3.5	6.0	
Forward Transconductance (Note 2)	$V_{DS}=3V, I_D=10mA$	g_{fs}	--	40	--	S
Dynamic (Note 2)						
Total Gate Charge (Note 3)	$V_{DS}=5V, I_D=10mA, V_{GS}=5V$	Q_g	--	350	--	nC
Gate-Source Charge (Note 3)		Q_{gs}	--	46	--	
Gate-Drain Charge (Note 3)		Q_{gd}	--	118	--	
Input Capacitance	$V_{DS}=3V, V_{GS}=0V, F=1.0MHz$	C_{iss}	--	13.5	--	pF
Output Capacitance		C_{oss}	--	8.0	--	
Reverse Transfer Capacitance		C_{rss}	--	6.5	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DD}=5V, I_D=10mA, V_{GS}=5V, R_{GEN}=50\Omega$	$t_{d(on)}$	--	6.7	--	nS
Rise Time (Note 3)		t_r	--	4.8	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	35	--	
Fall Time (Note 3)		t_f	--	12	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}=0V, I_F=100mA$	V_{SD}	--	0.8	1.2	V

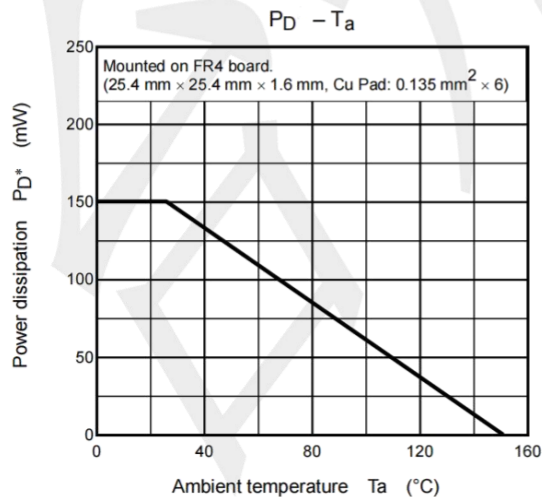
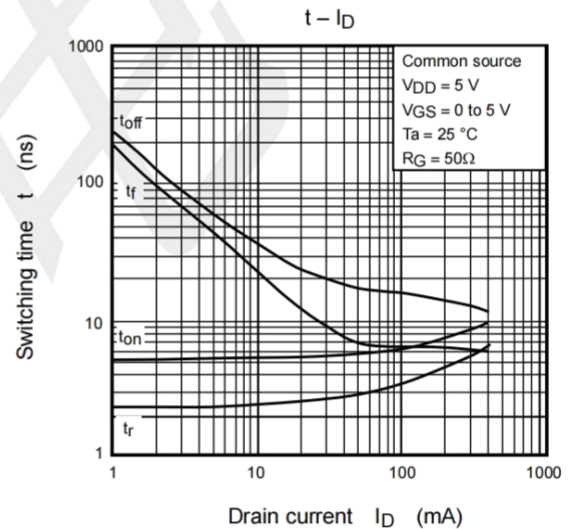
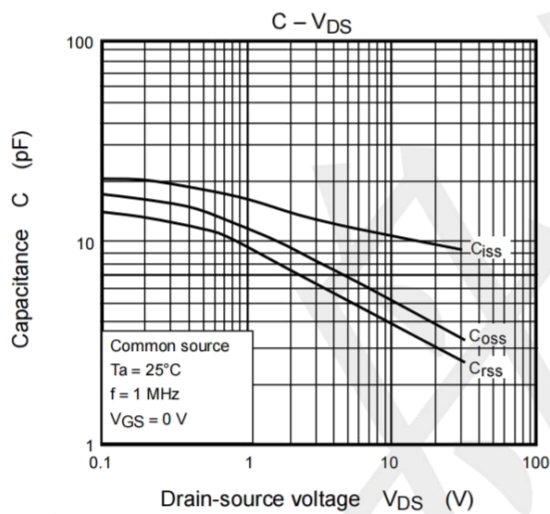
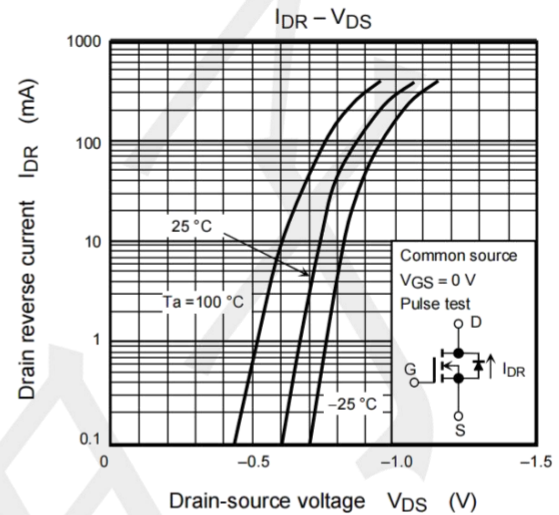
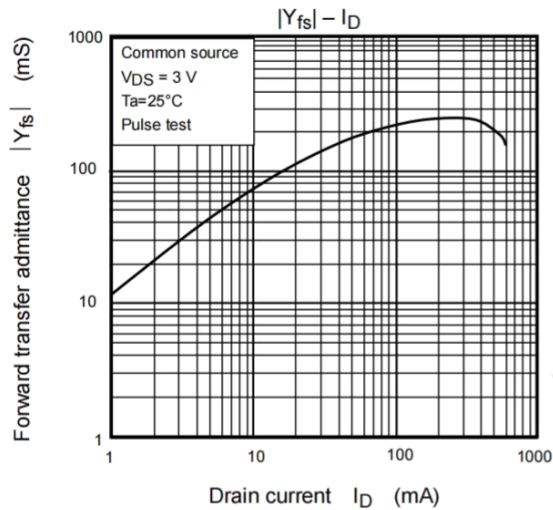
Notes:

1. Pulse test; pulse width ≤ 300 μS, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS

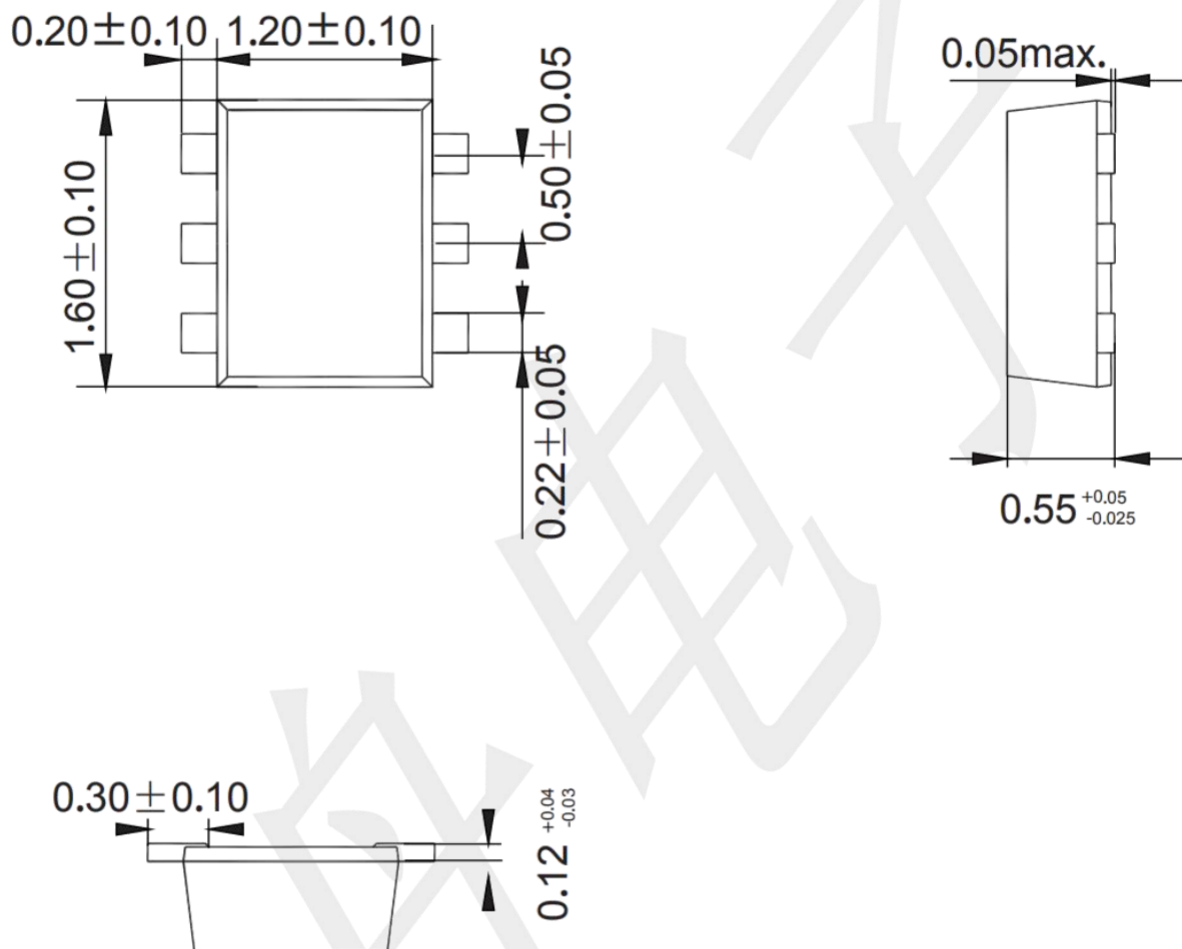


TYPICAL CHARACTERISTICS



Package information (unit: mm)

SOT563



Mounting Pad Layout (unit: mm)

