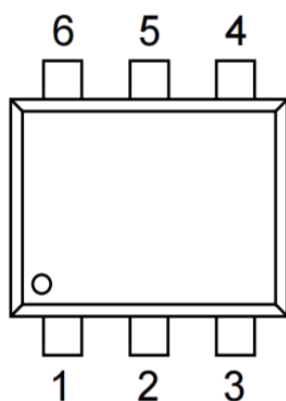


Product Summary

- 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

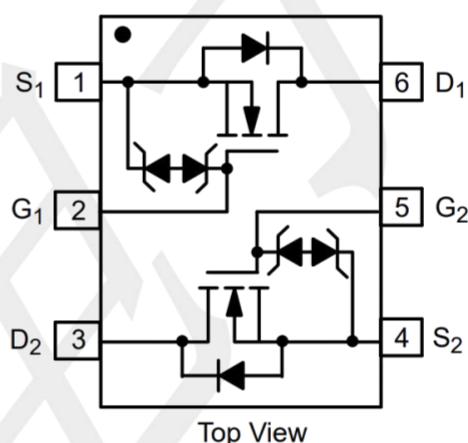


SOT-563

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).

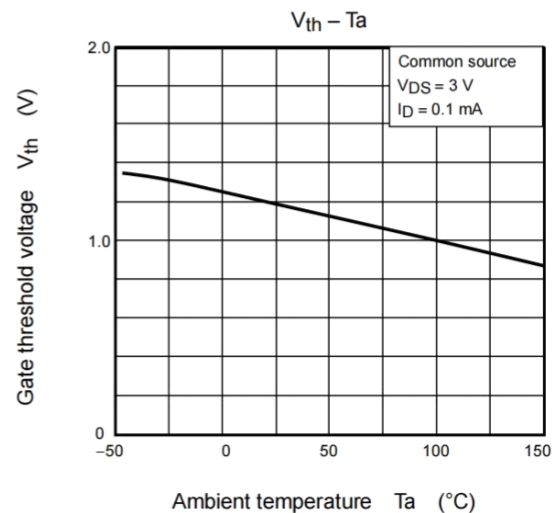
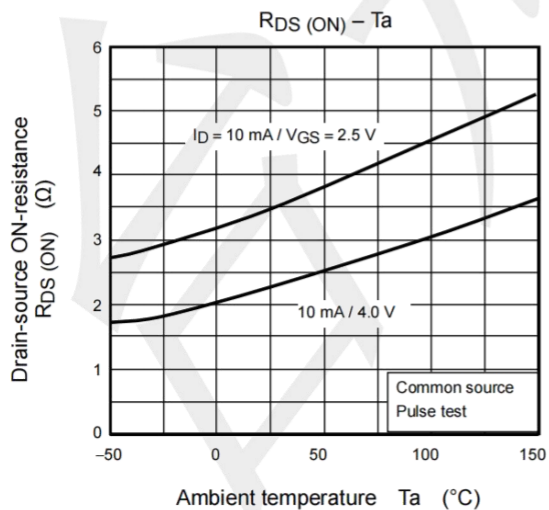
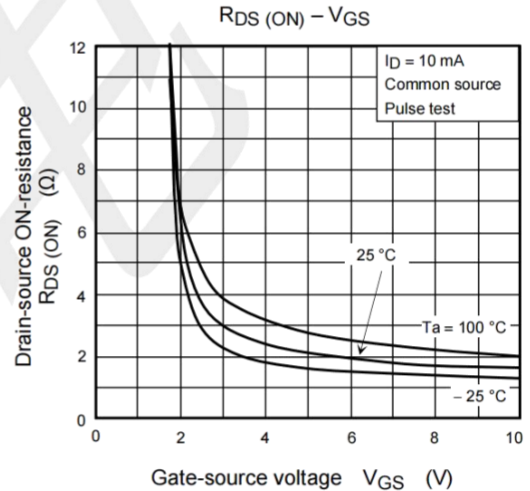
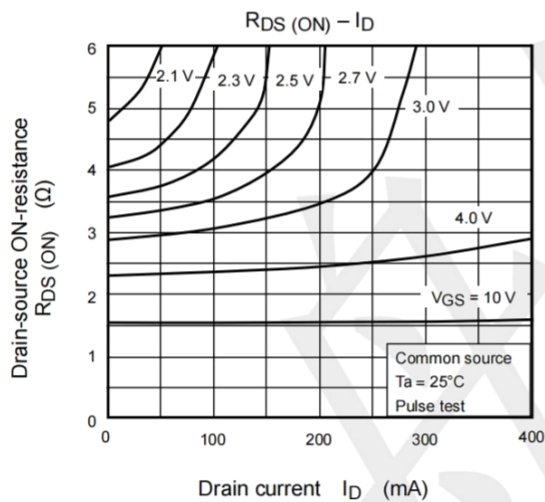
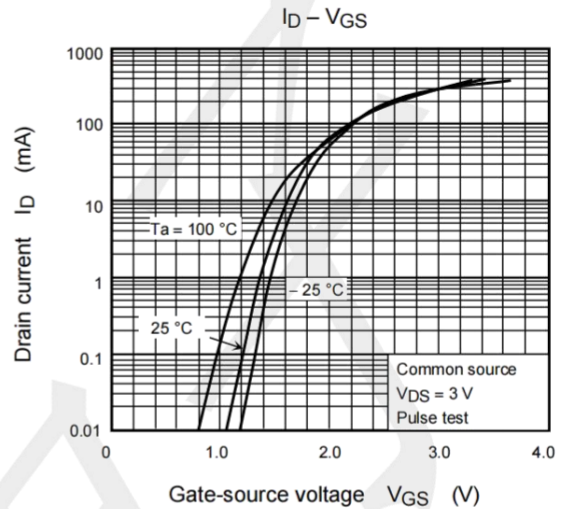
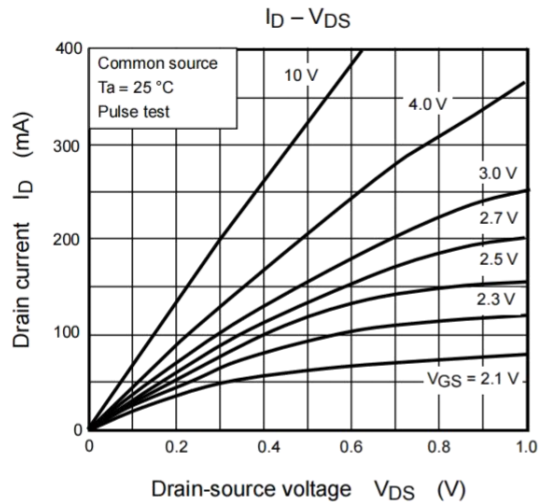
Electrical Characteristics (T_A=25°C unless otherwise noted)

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} = ±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°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} = 50Ω	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

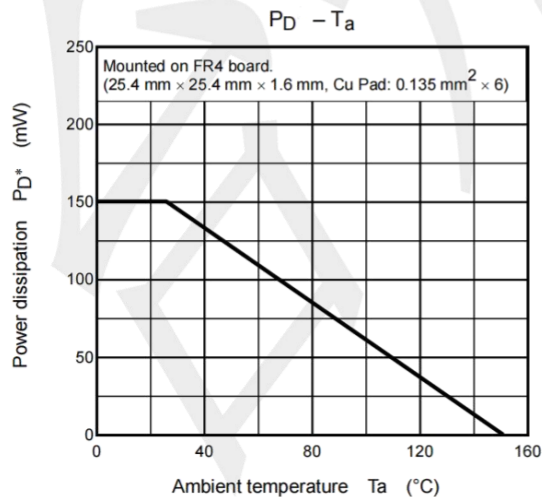
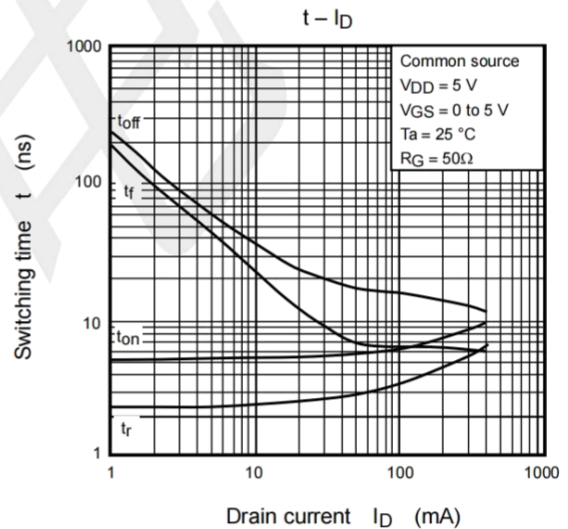
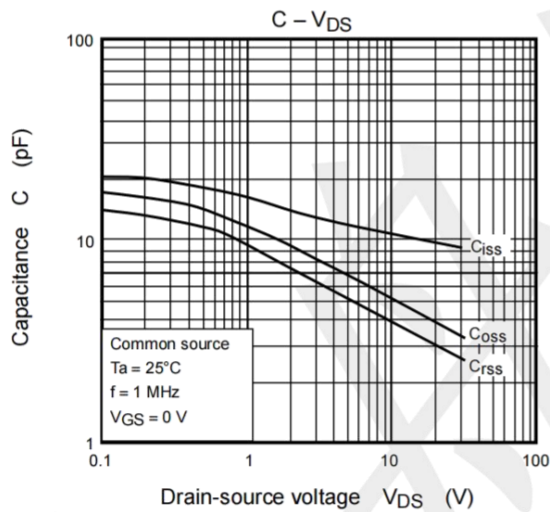
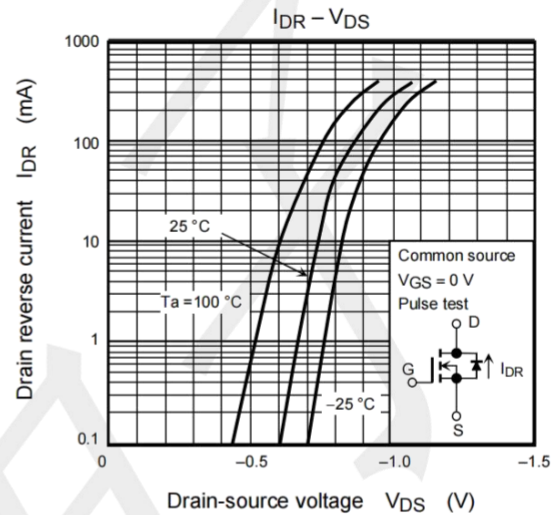
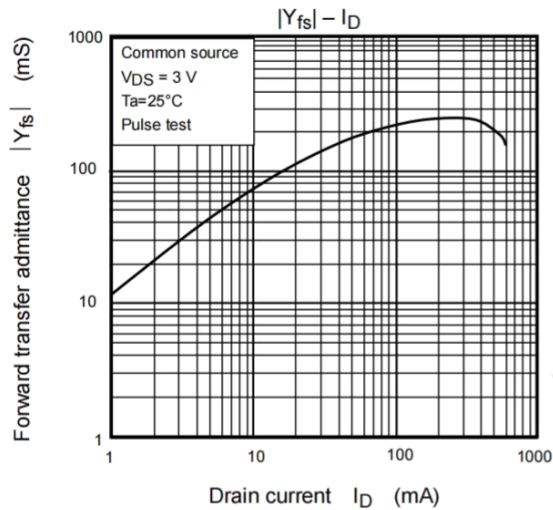
Notes:

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

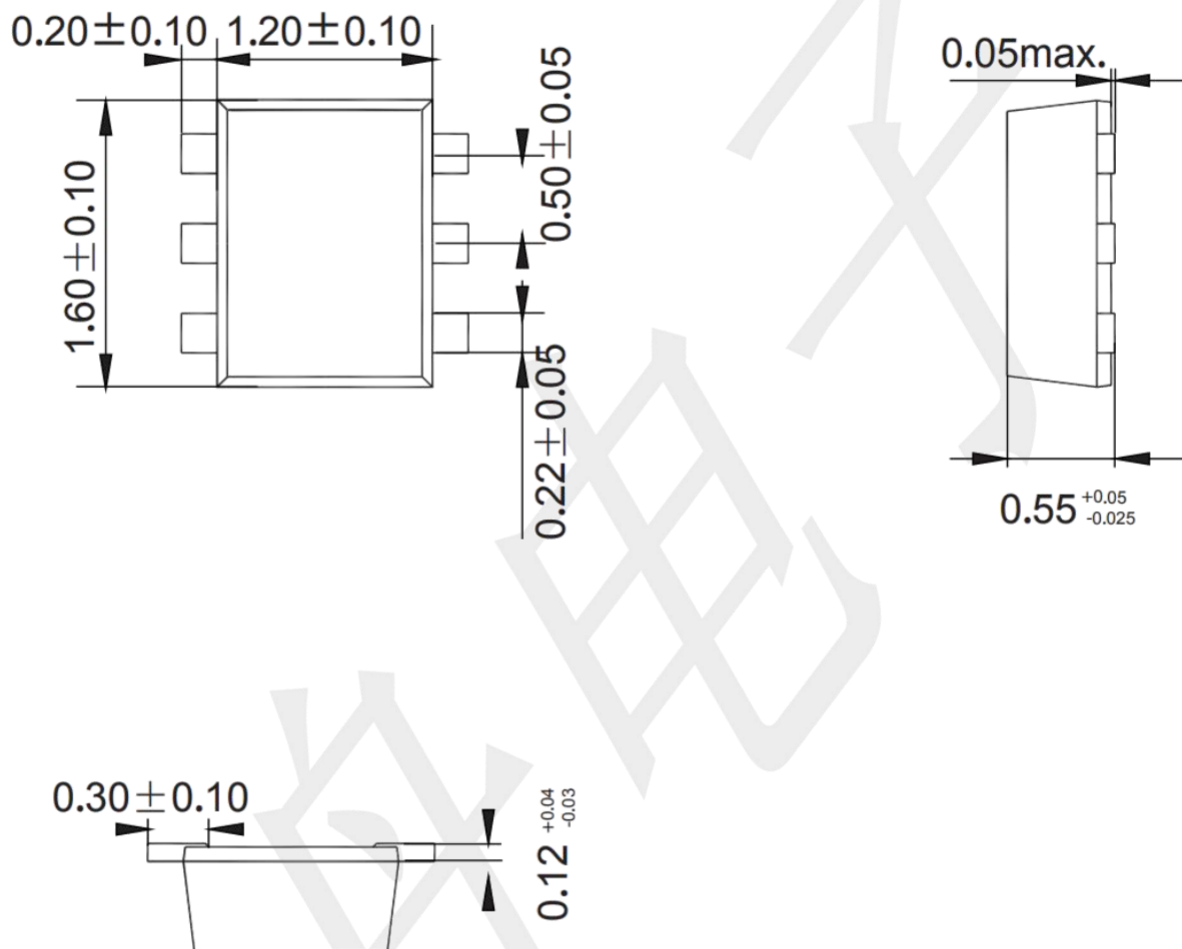


TYPICAL CHARACTERISTICS



Package information (unit: mm)

SOT563



Mounting Pad Layout (unit: mm)

