

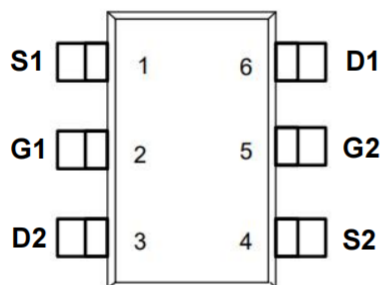
Product Summary

- V_{DS} -20 V
- I_{DS} -0.66A
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) $\leq 520m\Omega$
- $R_{DS(ON)}$ (at $V_{GS}=-2.5V$) $\leq 700m\Omega$

Application

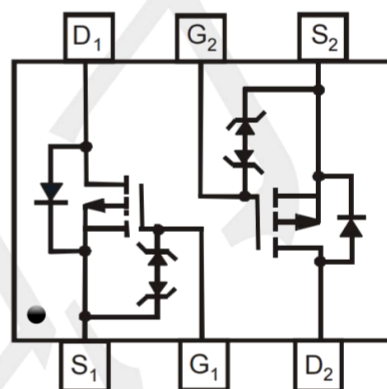
- Battery protection
- Load switch
- Power management
- Power Supply Converter Circuits

Package and Pin Configuration



SOT-363

Circuit diagram



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

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current (note 1)	I_{DM}	-2.64	A
Total Power Dissipation (note 2)	P_{DTOT}	0.15	W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

Notes : 1. Pulse width limited by Max.junction temperature.

2. Per element must not be exceeded

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).

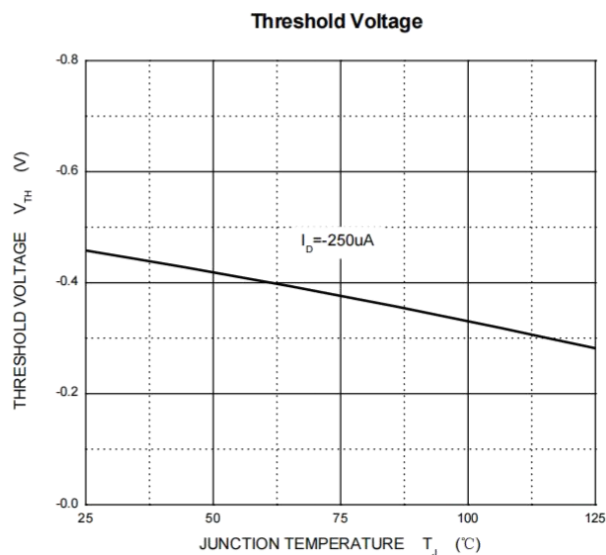
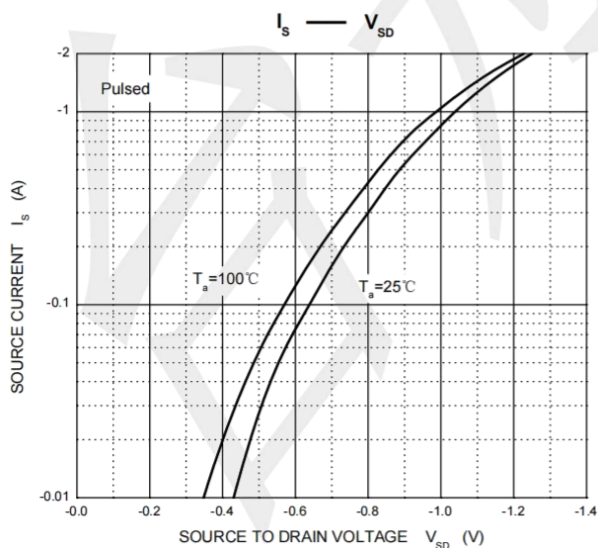
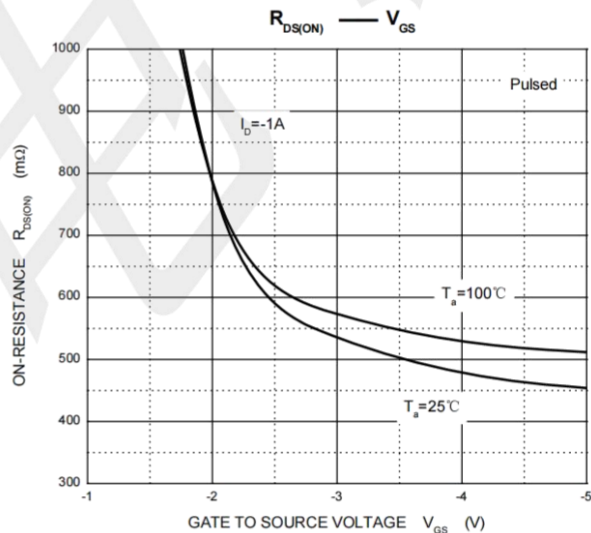
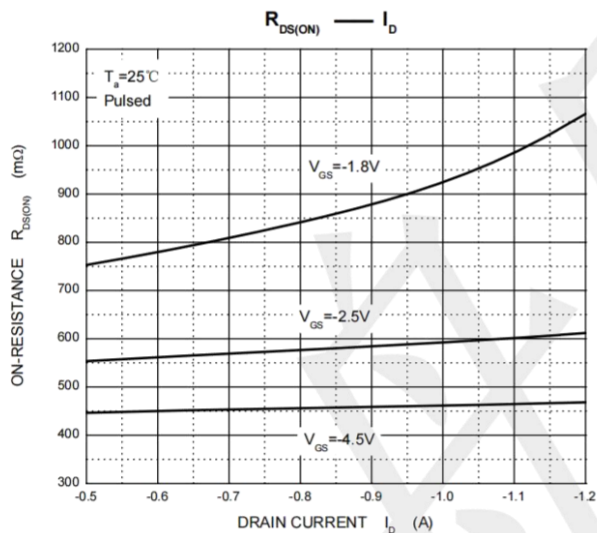
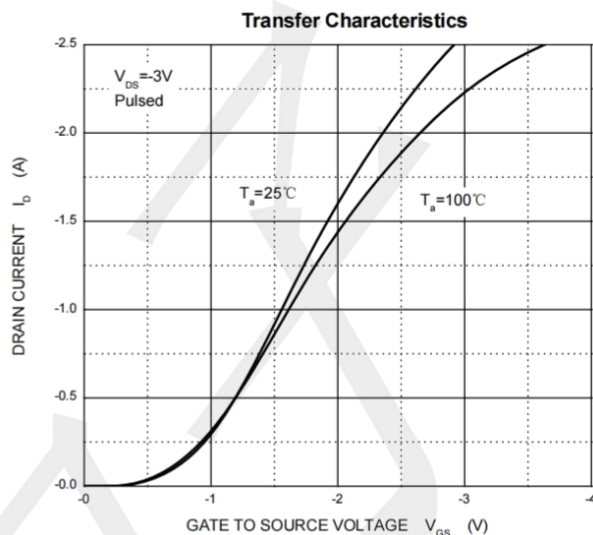
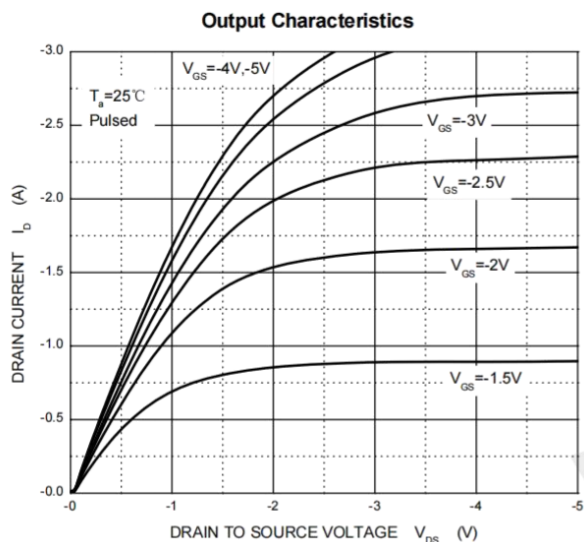
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D= -250\mu A$	BV_{DSS}	-20	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D= -250\mu A$	$V_{GS(th)}$	-0.35	-0.45	-1.1	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}= \pm 10V$	I_{GSS}	--	--	± 20	μA
Zero Gate Voltage Drain Current	$V_{DS}= -20V, V_{GS}=0V$	I_{DSS}	--	--	-1	μA
	$V_{DS}= -20V, T_J=55^{\circ}C$		--	--	-10	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}= -4.5V, I_D= -0.6A$	$R_{DS(on)}$	--	430	520	m Ω
	$V_{GS}= -2.5V, I_D= -0.5A$		--	624	700	
	$V_{GS}= -1.8V, I_D= -0.4A$		--	950	--	
Forward Transconductance (Note 2)	$V_{DS}= -10V, I_D= -0.5A$	g_{fs}	--	1	--	S
Dynamic (Note 2)						
Total Gate Charge (Note 3)	$V_{DS}= -15V, I_D= -0.5A, V_{GS}= -4.5V$	Q_g	--	4.1	--	nC
Gate-Source Charge (Note 3)		Q_{gs}	--	1.3	--	
Gate-Drain Charge (Note 3)		Q_{gd}	--	1.8	--	
Input Capacitance	$V_{DS}= -16V, V_{GS}= 0V, F= 1.0MHz$	C_{iss}	--	160	--	pF
Output Capacitance		C_{oss}	--	20	--	
Reverse Transfer Capacitance		C_{rss}	--	15	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DD}= -10V, I_D= -0.2A, V_{GEN}= -4.5V, R_G= 10\Omega$	$t_{d(on)}$	--	9	--	nS
Rise Time (Note 3)		t_r	--	5.8	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	32	--	
Fall Time (Note 3)		t_f	--	20	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}= 0V, I_F= -0.5A$	V_{SD}	--	-0.8	-1.2	V
Continuous Source Current	Integral reverse diode in the MOSFET	I_S	--	--	-0.66	A
Pulsed Current (Note 1)		I_{SM}	--	--	-2.64	A

Notes:

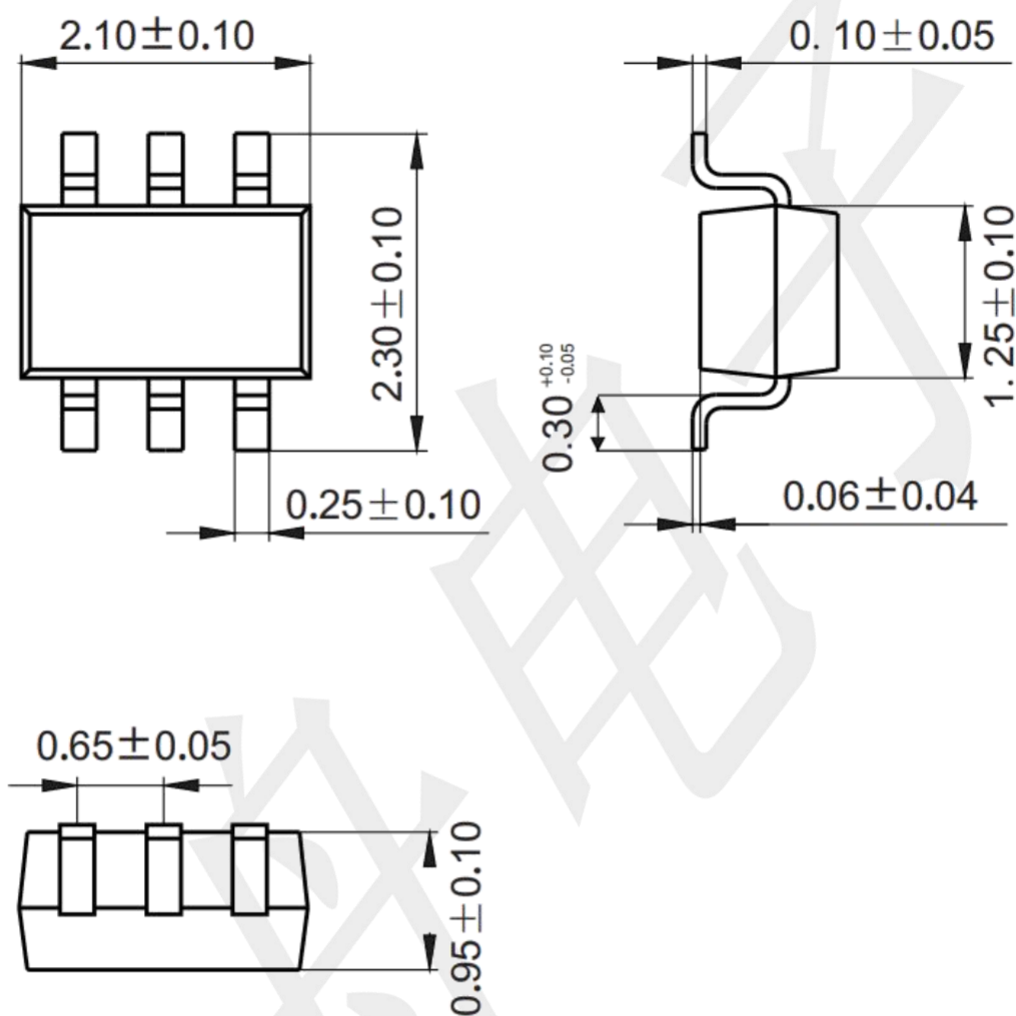
1. Pulse test; pulse width ≤ 300 μS, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS(25 °C, unless otherwise noted)



Package information (unit: mm)

SOT-363



Mounting Pad Layout (unit: mm)

