

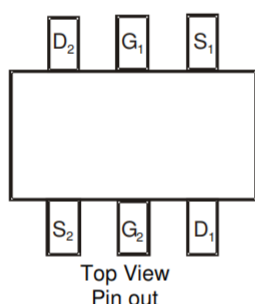
Product Summary

- 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

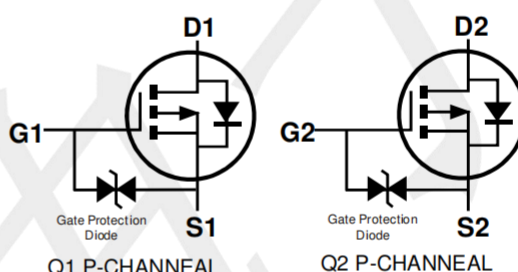
- Battery protection
- Load switch
- Power management
- Power Supply Converter Circuits

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	PCB Mount (Note)	R_{thJA}	833	°C/W

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

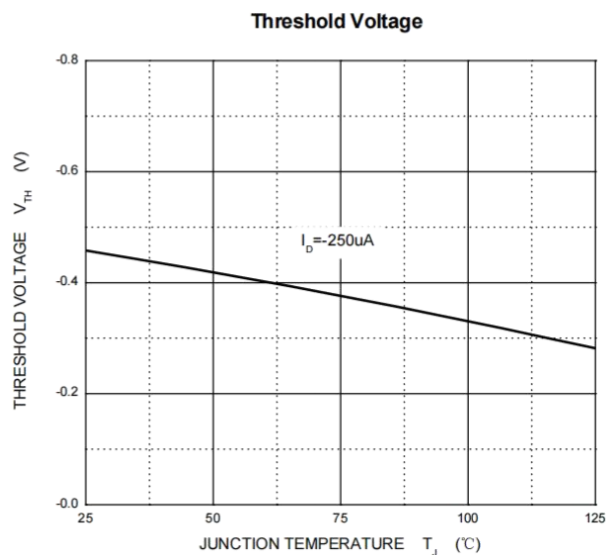
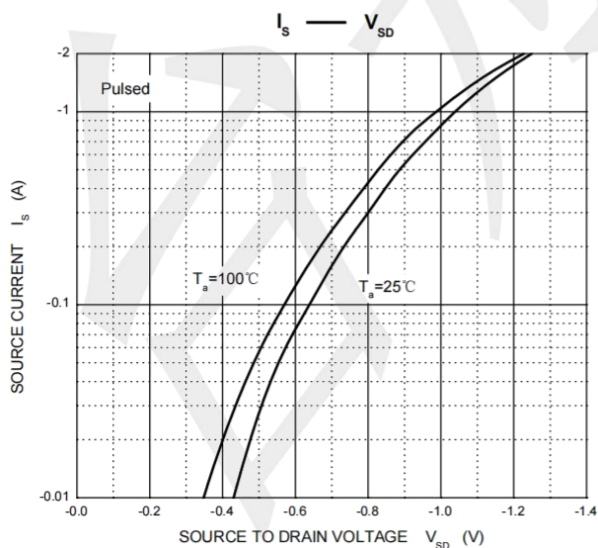
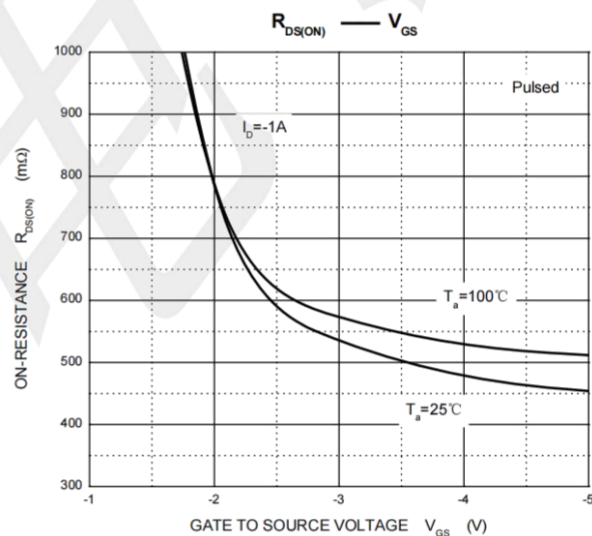
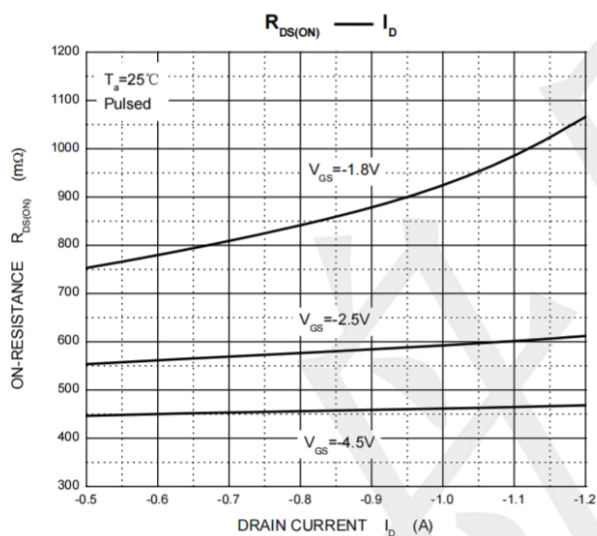
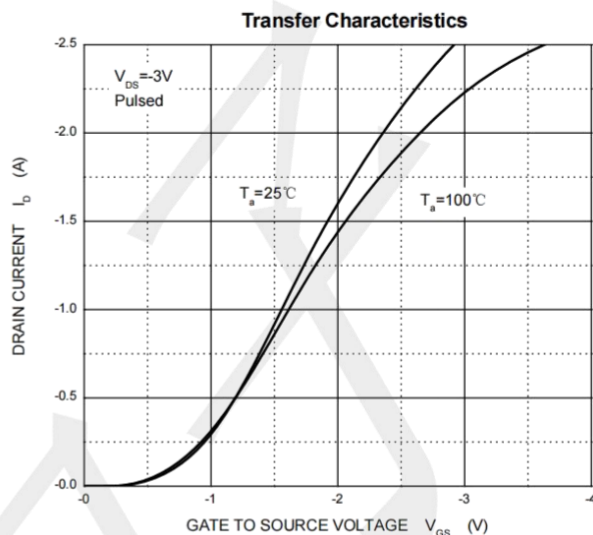
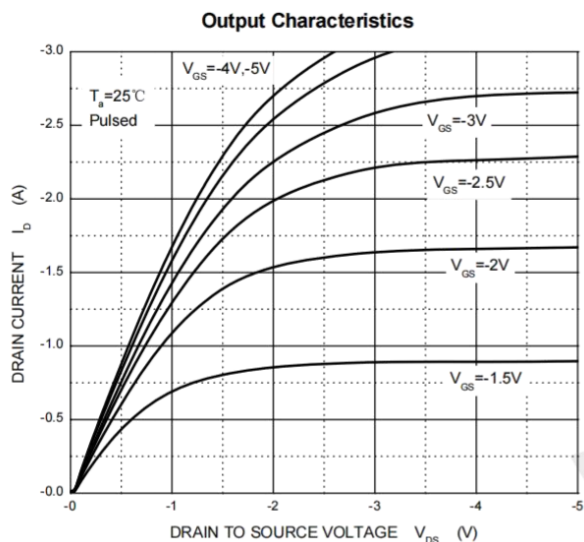
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	V _{GS} =0V, I _D = -250μA	BV _{DSS}	-20	--	--	V
Gate-Source Threshold Voltage	V _{DS} =V _{GS} , I _D = -250μA	V _{GS(th)}	-0.35	-0.45	-1.1	V
Gate-Source Leakage	V _{DS} =0V, V _{GS} = ±10V	I _{GSS}	--	--	±20	uA
Zero Gate Voltage Drain Current	V _{DS} = -20V, V _{GS} =0V	I _{DSS}	--	--	-1	μA
	V _{DS} = -20V, T _J =55°C		--	--	-10	μA
Drain-Source On-State Resistance (Note 1)	V _{GS} = -4.5V, I _D = -0.6A	R _{DS(on)}	--	430	520	mΩ
	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 = 10Ω	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:

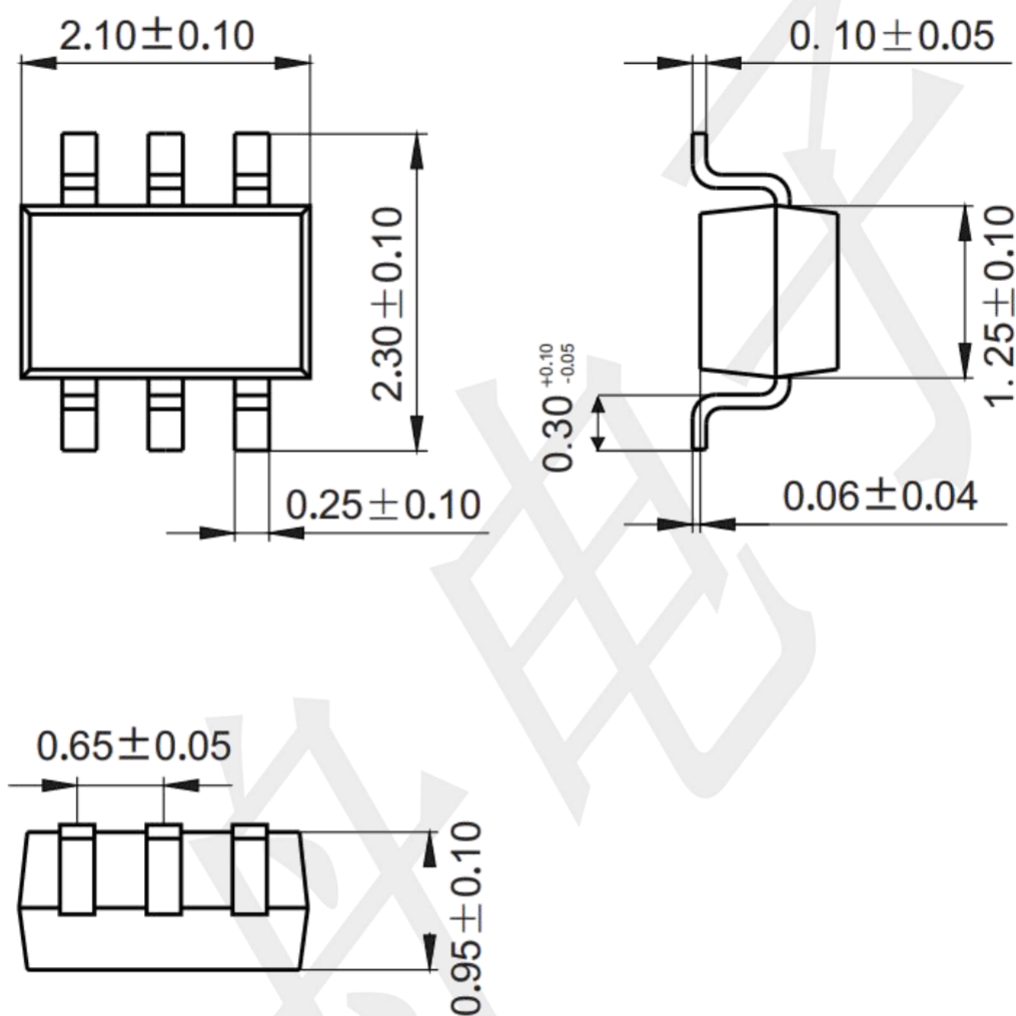
1. Pulse test; pulse width ≤ 300 μS, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS(25 °C, unless otherwise noted)



Package information (unit: mm)

SOT-363



Mounting Pad Layout (unit: mm)

