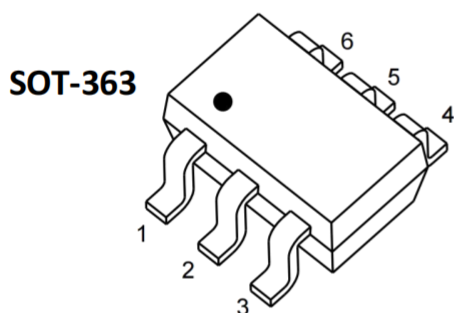


Product Summary

- V_{DS} 20 V
- I_{DS} 0.75A
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) <380m Ω
- $R_{DS(ON)}$ (at $V_{GS}=-2.5V$) <450m Ω

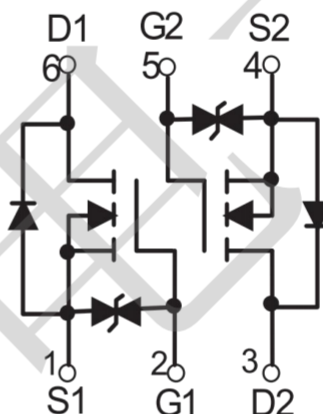
Package and Pin Configuration



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}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	0.75	A
Total Power Dissipation	P_{TOT}	0.15	W
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).

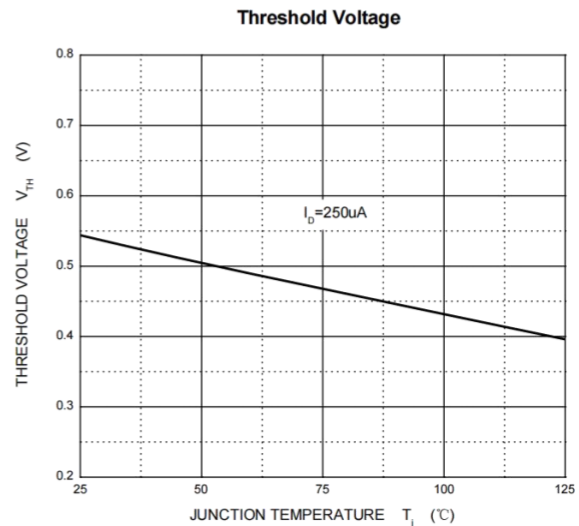
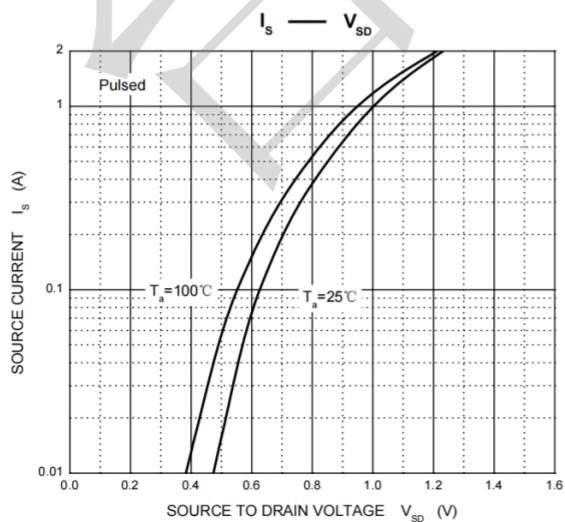
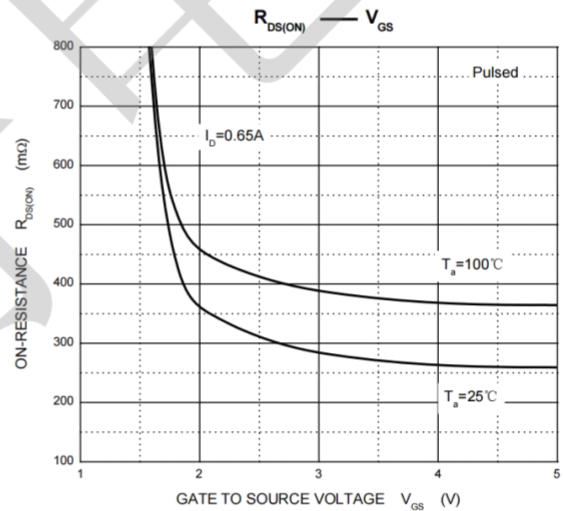
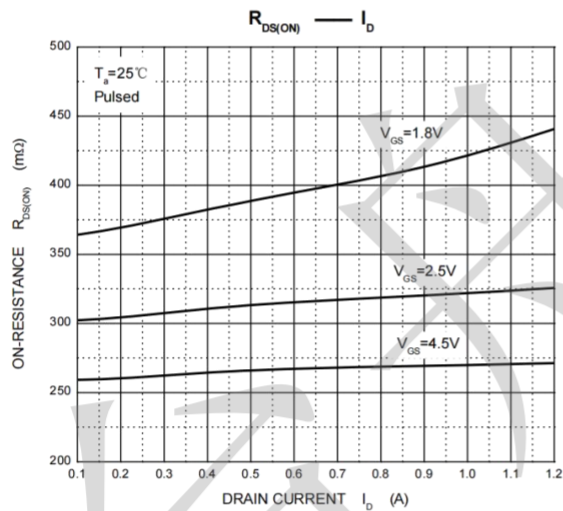
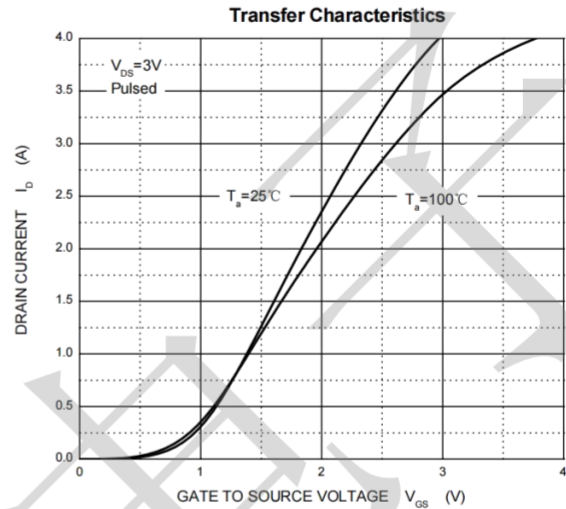
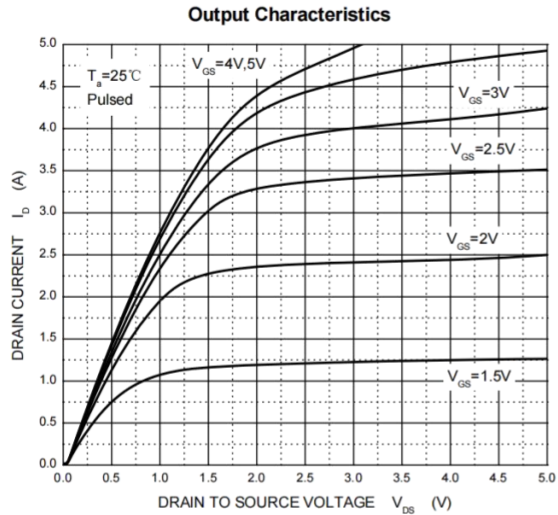
Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	20	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.35	0.54	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
	$V_{DS}=20V, T_J=125^{\circ}C$		--	--	50	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}=4.5V, I_D=0.65A$	$R_{DS(on)}$	--	270	380	m Ω
	$V_{GS}=2.5V, I_D=0.55A$		--	320	450	
	$V_{GS}=1.8V, I_D=0.45A$		--	390	800	
Forward Transconductance (Note 2)	$V_{DS}=10V, I_D=0.8A$	g_{fs}	--	1.6	--	S
Dynamic (Note 2)						
Total Gate Charge (Note 3)	$V_{DS}=10V, I_D=0.25A,$ $V_{GS}=4.5V$	Q_g	--	750	--	PC
Gate-Source Charge (Note 3)		Q_{gs}	--	75	--	
Gate-Drain Charge (Note 3)		Q_{gd}	--	225	--	
Input Capacitance	$V_{DS}=16V, V_{GS}=0V,$ $F=1.0MHz$	C_{iss}	--	79	--	pF
Output Capacitance		C_{oss}	--	13	--	
Reverse Transfer Capacitance		C_{rss}	--	9	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DD}=10V, I_D=0.5A,$ $V_{GS}=4.5V,$ $R_{GEN}=10\Omega$	$t_{d(on)}$	--	6.7	--	nS
Rise Time (Note 3)		t_r	--	4.8	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	17.3	--	
Fall Time (Note 3)		t_f	--	7.4	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}=0V, I_F=0.15A$	V_{SD}	--	0.8	1.2	V

Notes:

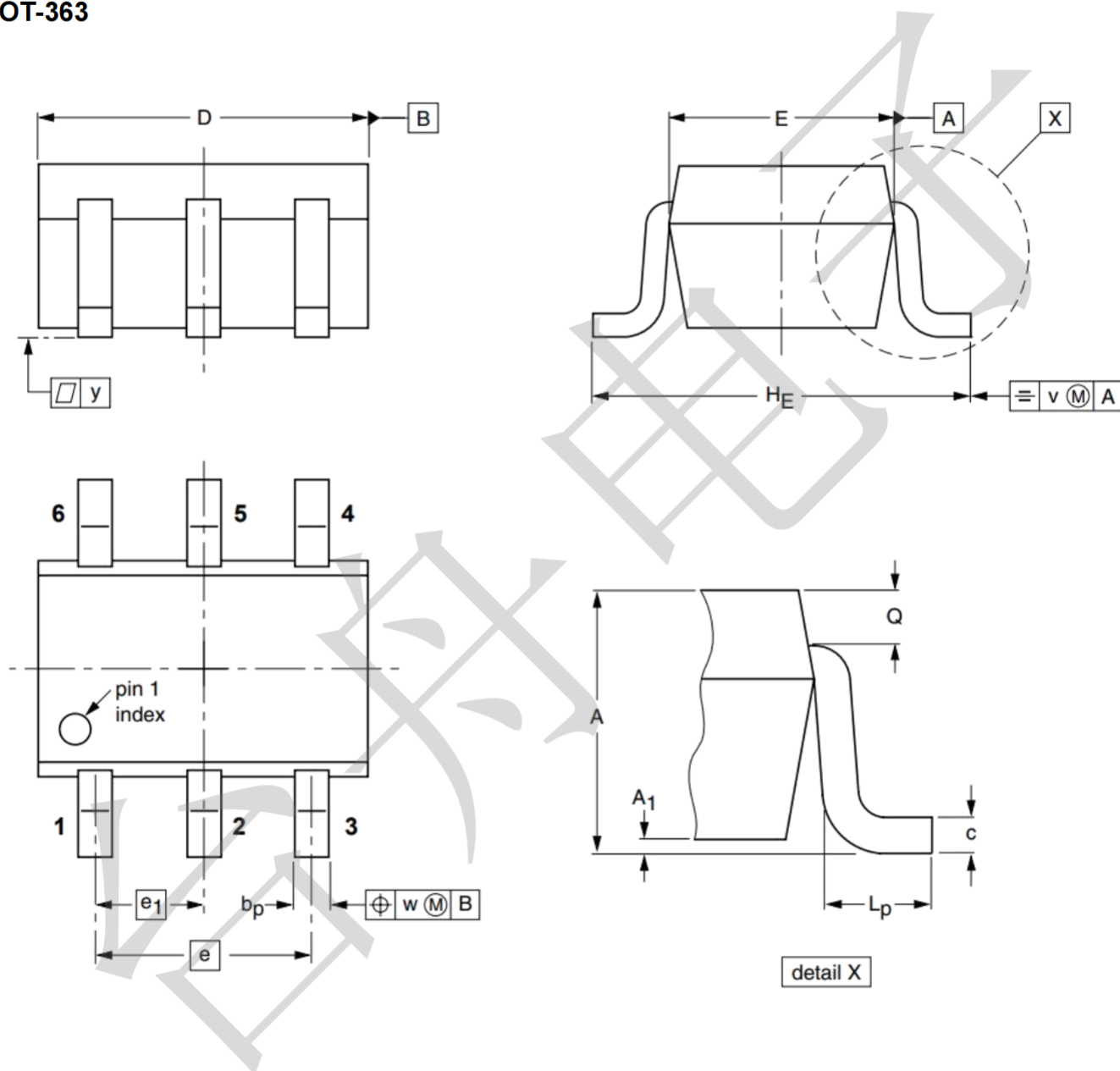
1. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS



Package Outline & Dimensions

SOT-363



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1