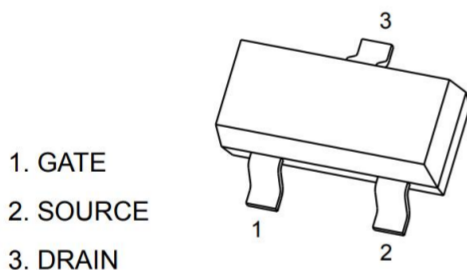


Product Summary

- V_{DS} 150 V
- I_{DS} (at $V_{GS}=10V$) 4.0A
- $R_{DS(ON)}$ ($V_{GS}=10V$) $\leq 245m\Omega$

Package and Pin Configuration

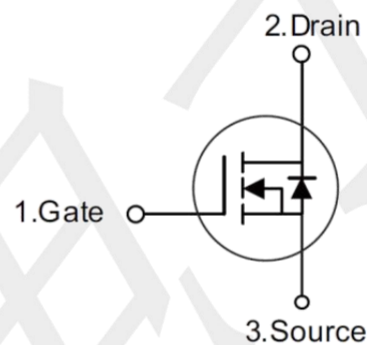


SOT-23-3L

Application

- Interfacing Switching
- Load Switch
- Portable equipment and battery

Circuit diagram



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNIT
Drain-Source Voltage		V _{DS}	150	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current TA=25°C		I _D	4.0	A
Continuous Drain Current TA=70°C		I _D	3.2	A
Pulsed Drain Current (t = 100 μs)		I _{DM}	8	A
Maximum Power Dissipation	TA=25°C	P _D	1.4	W
	TA=70°C		0.8	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
Thermal Resistance from Junction to Ambient($t \leq 10\text{s}$)	$R_{\theta JA}$	90	$^\circ\text{C/W}$

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

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

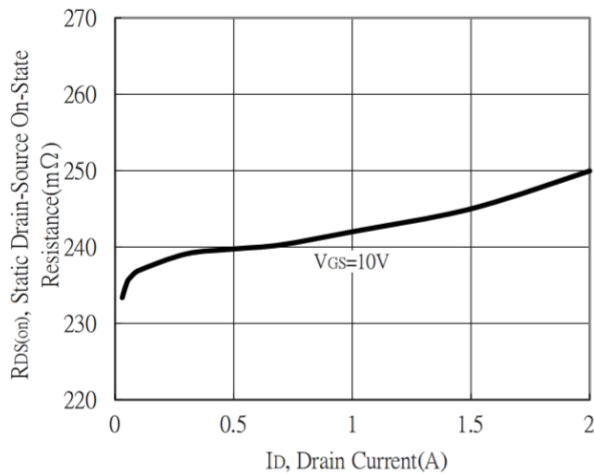
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=10\mu A$	BV_{DSS}	150	--	--	V
Gate-Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	1.5	2.0	3.5	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=120V, V_{GS}=0V$	I_{DSS}	--	--	1.0	μA
Drain-Source On-State Resistance (Note 1)	$V_{GS}=10V, I_D=2.0A$	$R_{DS(on)}$	--	200	245	m Ω
	$V_{GS}=4.5V, I_D=1.0A$		--	250	300	
Forward Transconductance (Note 2)	$V_{DS}=5V, I_D=1.0A$	g_{fs}	--	32	--	S
Dynamic (Note 2)						
Input Capacitance	$V_{DS}=75V, V_{GS}=0V, F=1.0MHz$	C_{iss}	--	250	--	pF
Output Capacitance		C_{oss}	--	25	--	
Reverse Transfer Capacitance		C_{rss}	--	12	--	
Switching						
Turn-On Delay Time (Note 3)	$V_{DS}=75V, V_{GS}=10V, I_D=1A, R_G=6\Omega.$	$t_{d(on)}$	--	6	--	nS
Rise Time (Note 3)		t_r	--	7	--	
Turn-Off Delay Time (Note 3)		$t_{d(off)}$	--	13	--	
Fall Time (Note 3)		t_f	--	6	--	
Total Gate Charge	$V_{DS}=75V, I_D=1A, V_{GS}=10V$	Q_g	--	6	--	nC
Gate Source Charge		Q_{gs}	--	1.5	--	
Gate Drain Charge		Q_{gd}	--	1.8	--	
Source-Drain Diode Ratings and Characteristics (Note 2)						
Forward Voltage	$V_{GS}=0V, I_F=1A$	V_{SD}	--	0.8	1.2	V
Continuous Source Current	Integral reverse diode in the MOSFET	I_S	--	--	4.0	A
Pulsed Current (Note 1)		I_{SM}	--	--	8.0	A

Notes:

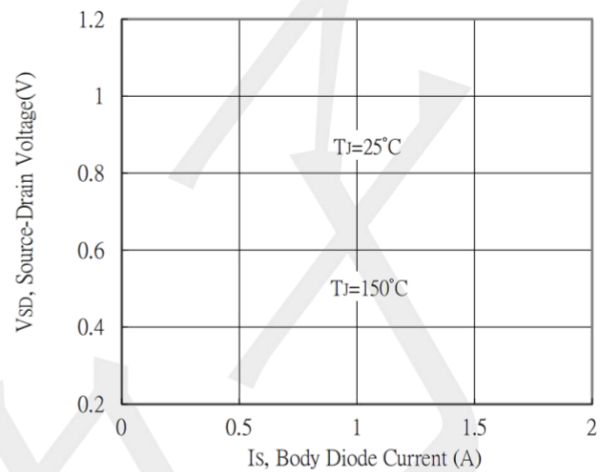
1. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
2. Guaranteed by design, not subject to production testing.
3. Independent of operating temperature

TYPICAL CHARACTERISTICS (25 °C, unless otherwise noted)

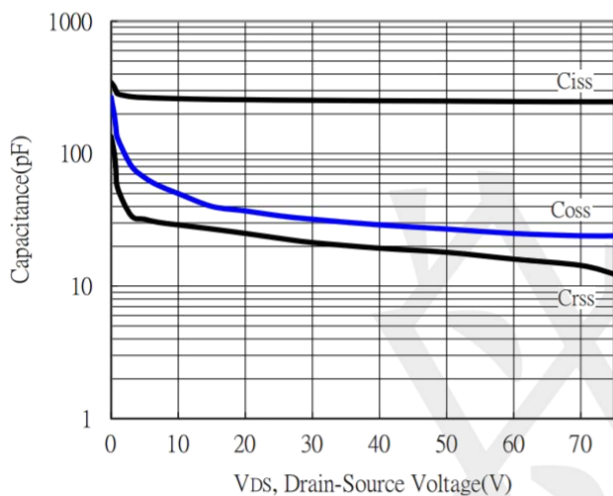
Static Drain-Source On-State resistance vs Drain Current



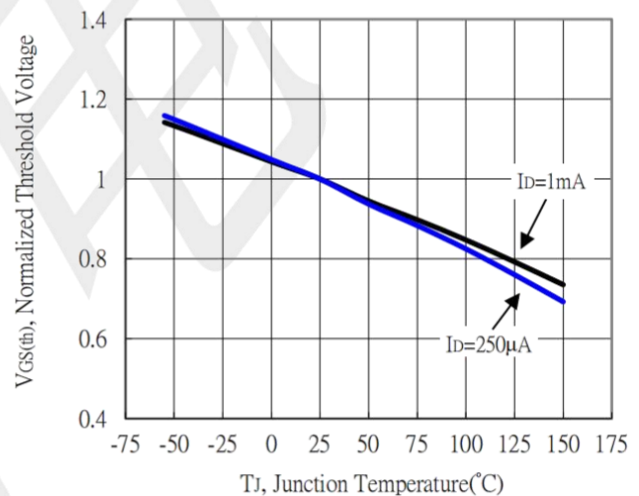
Body Diode Current vs Source-Drain Voltage



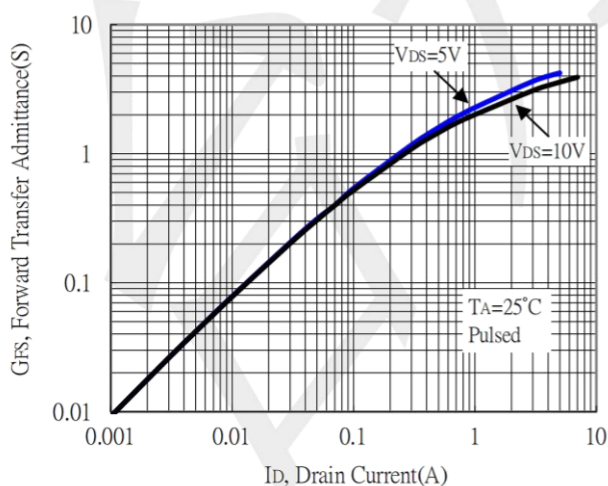
Capacitance vs Drain-to-Source Voltage



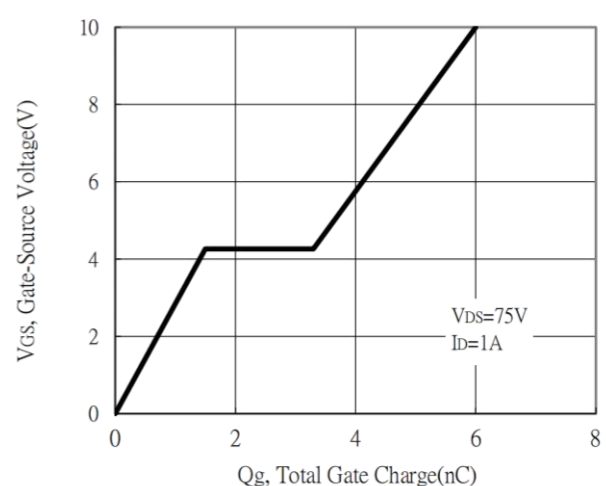
Threshold Voltage vs Junction Temperature



Forward Transfer Admittance vs Drain Current

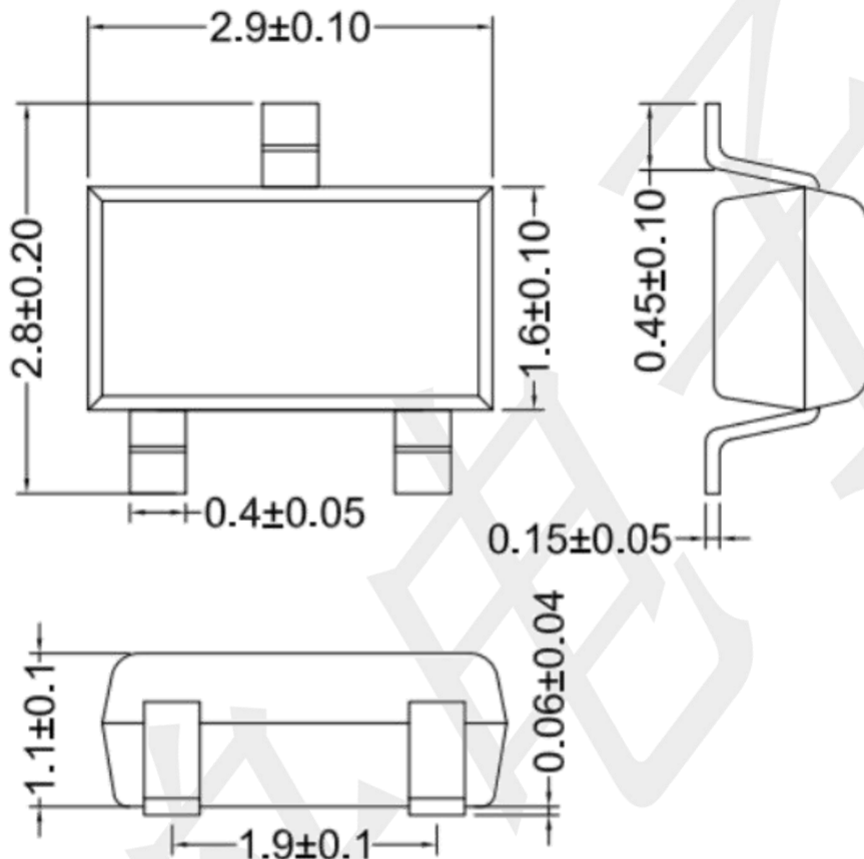


Gate Charge Characteristics



Package Outline Dimensions (unit: mm)

SOT-23-3L



Mounting Pad Layout (unit: mm)

