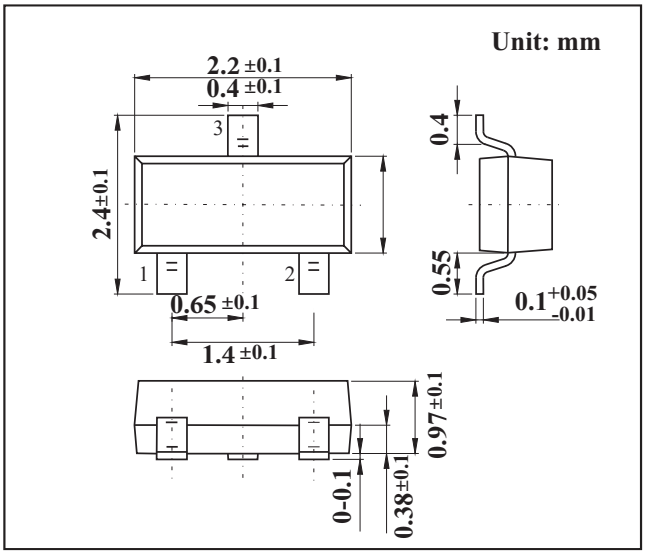
SOT-323 Plastic-Encapsulate MOSFETS

FEATURES

- VDS (V) = 30V ID = 0 . 1 A RDS(ON) ＜ 8Ω
- (VGS = 4 V) RDS(ON) ＜ 13Ω (VGS = 2 . 5 V)
- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for
- Portable equipment
- Easily designed drive circuits
- Easy to parallel
- N-channel MOSFET

MECHANICAL DATA

- Case style:SOT-323molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current	I_D	100	mA
Pulsed Drain Current (Note.1)	I_{DM}	400	
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	- 5 5 t o 1 5 0	

Mosfet Electrical Characteristics TA=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±1	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=3V , I_D=0.1mA	0.8		1.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4V, I_D=10mA			8	Ω
		V_{GS}=2.5V, I_D=1mA			13	
Forward Transconductance	g_{FS}	V_{DS}=3V, I_D=10mA	20			mS
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=5V, f=1MHz		13		pF
Output Capacitance	C_{oss}			9		
Reverse Transfer Capacitance	C_{rss}			4		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=5V, V_{DS}=5V, I_D=10mA,R_L=500Ω, R_G=10Ω		15		ns
Turn-On Rise Time	t_r			35		
Turn-Off DelayTime	$t_{d(off)}$			80		
Turn-Off Fall Time	t_f			80		

RATINGS AND CHARACTERISTIC CURVES

■ Typical Characterisitics

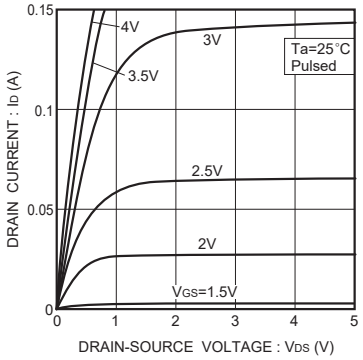


Fig.1 Typical output characteristics

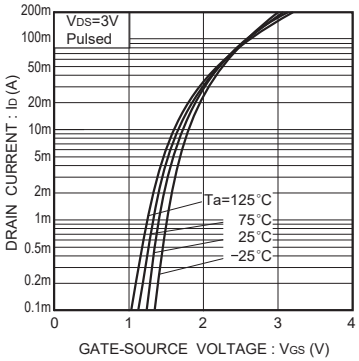


Fig.2 Typical transfer characteristics

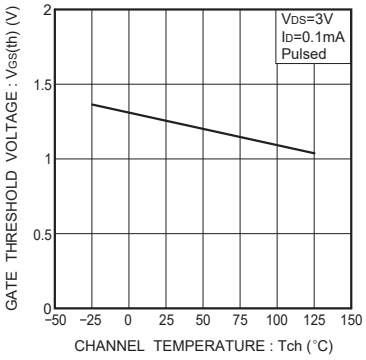


Fig.3 Gate threshold voltage vs. channel temperature

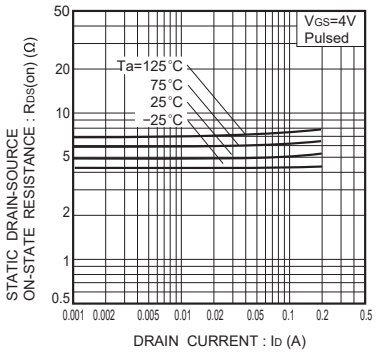


Fig.4 Static drain-source on-state resistance vs. drain current (I)

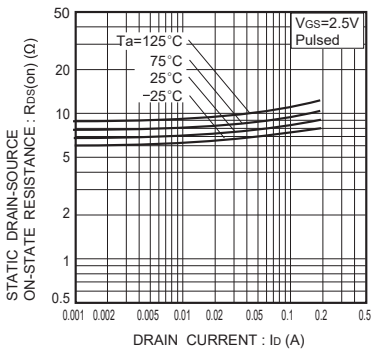


Fig.5 Static drain-source on-state resistance vs. drain current (II)

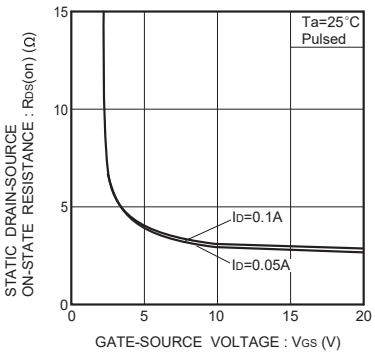


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

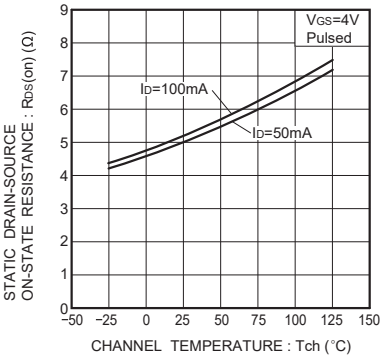


Fig.7 Static drain-source on-state resistance vs. channel temperature

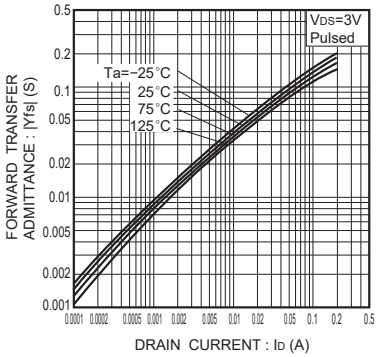


Fig.8 Forward transfer admittance vs. drain current

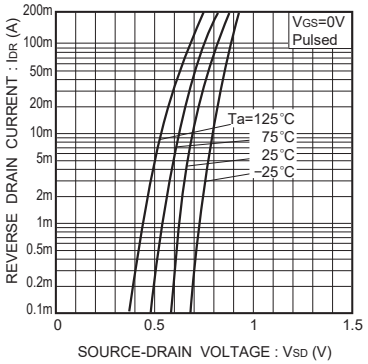


Fig.9 Reverse drain current vs. source-drain voltage (I)

RATINGS AND CHARACTERISTIC CURVES

■ Typical Characterisitics

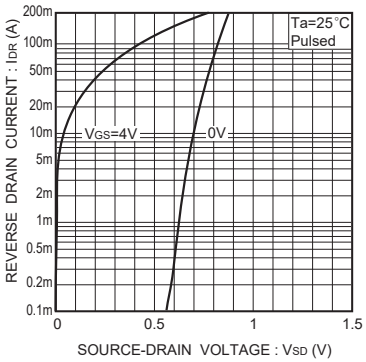


Fig.10 Reverse drain current vs. source-drain voltage (II)

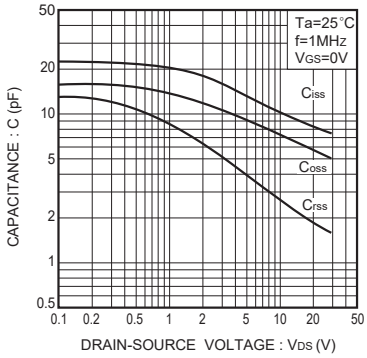


Fig.11 Typical capacitance vs. drain-source voltage

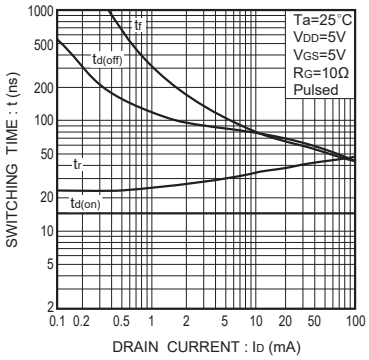


Fig.12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)

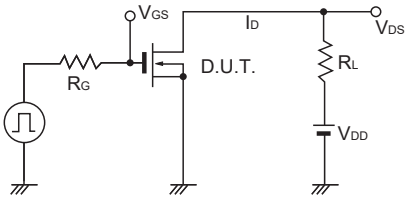


Fig.13 Switching time measurement circuit

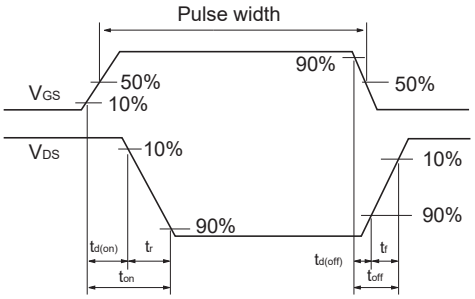


Fig.14 Switching time waveforms