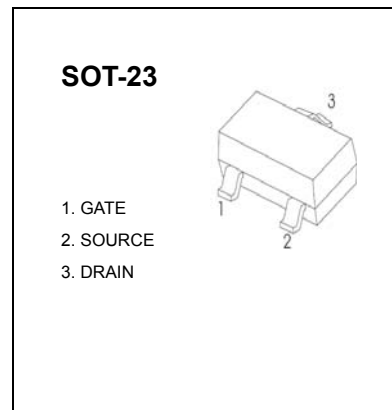


SOT-23 Plastic-Encapsulate MOSFETS

2N7002 MOSFET (N-Channel)

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	5Ω@10V	115mA
	7Ω@5V	



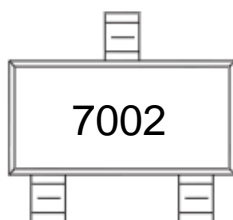
FEATURE

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

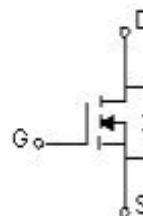
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	20	V
Continuous Drain Current	I_D	0.115	A
Power Dissipation	P_D	0.225	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-50 ~+150	

SOT-23 Plastic-Encapsulate MOSFETS

T_a=25 °C unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0 V, I _D =250 μA	60			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} =V _{GS} , I _D =250 μA	1		2.5	
Gate-body Leakage	I _{GSS}	V _{DS} =0 V, V _{GS} =±20 V			±80	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60 V, V _{GS} =0 V			80	nA
On-state Drain Current	I _{D(ON)}	V _{GS} =10 V, V _{DS} =7 V	500			mA
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10 V, I _D =100mA			5	Ω
		V _{GS} =5 V, I _D =50mA			7	
Forward Trans conductance	g _{fs}	V _{DS} =10 V, I _D =200mA	80			ms
Drain-source on-voltage	V _{DS(on)}	V _{GS} =10V, I _D =500mA			3.75	V
		V _{GS} =5V, I _D =50mA			0.375	V
Diode Forward Voltage	V _{SD}	I _S =115mA, V _{GS} =0 V	0.55		1.2	V
Input Capacitance *	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz			50	pF
Output Capacitance *	C _{oss}				25	
Reverse Transfer Capacitance *	C _{rss}				5	

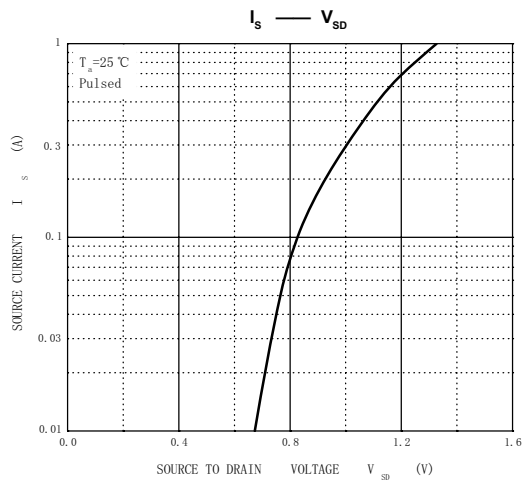
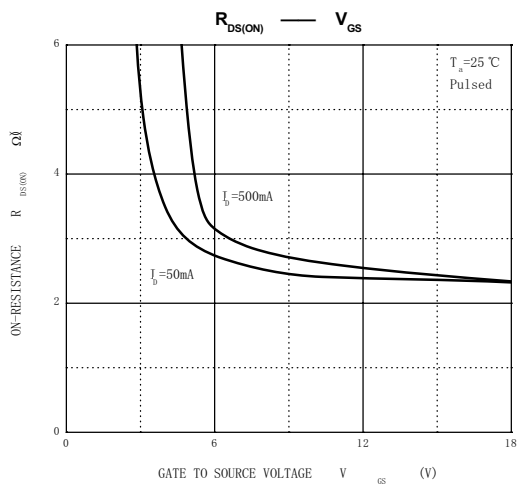
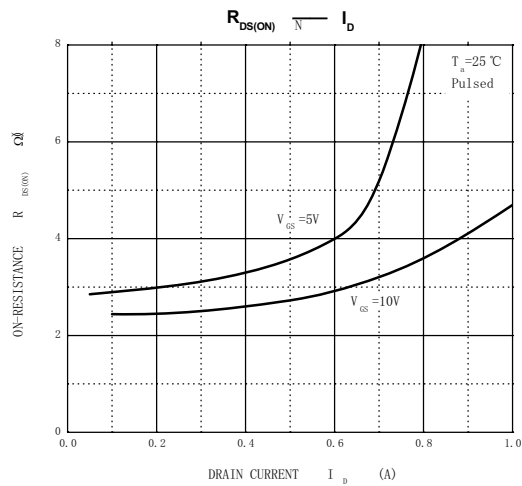
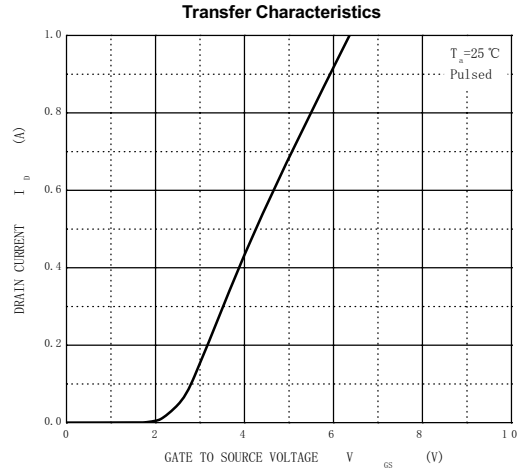
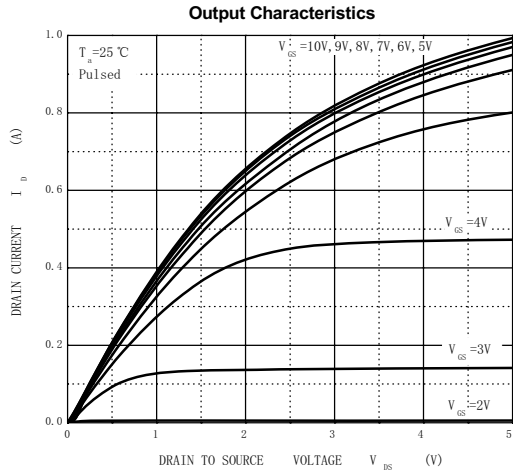
SWITCHING TIME

Turn-on Time *	t _{d(on)}	V _{DD} =25 V, R _L =50Ω, I _D =500mA, V _{GEN} =10 V			20	ns
Turn-off Time *	t _{d(off)}	R _G =25Ω			40	

*These parameters have no way to verify.

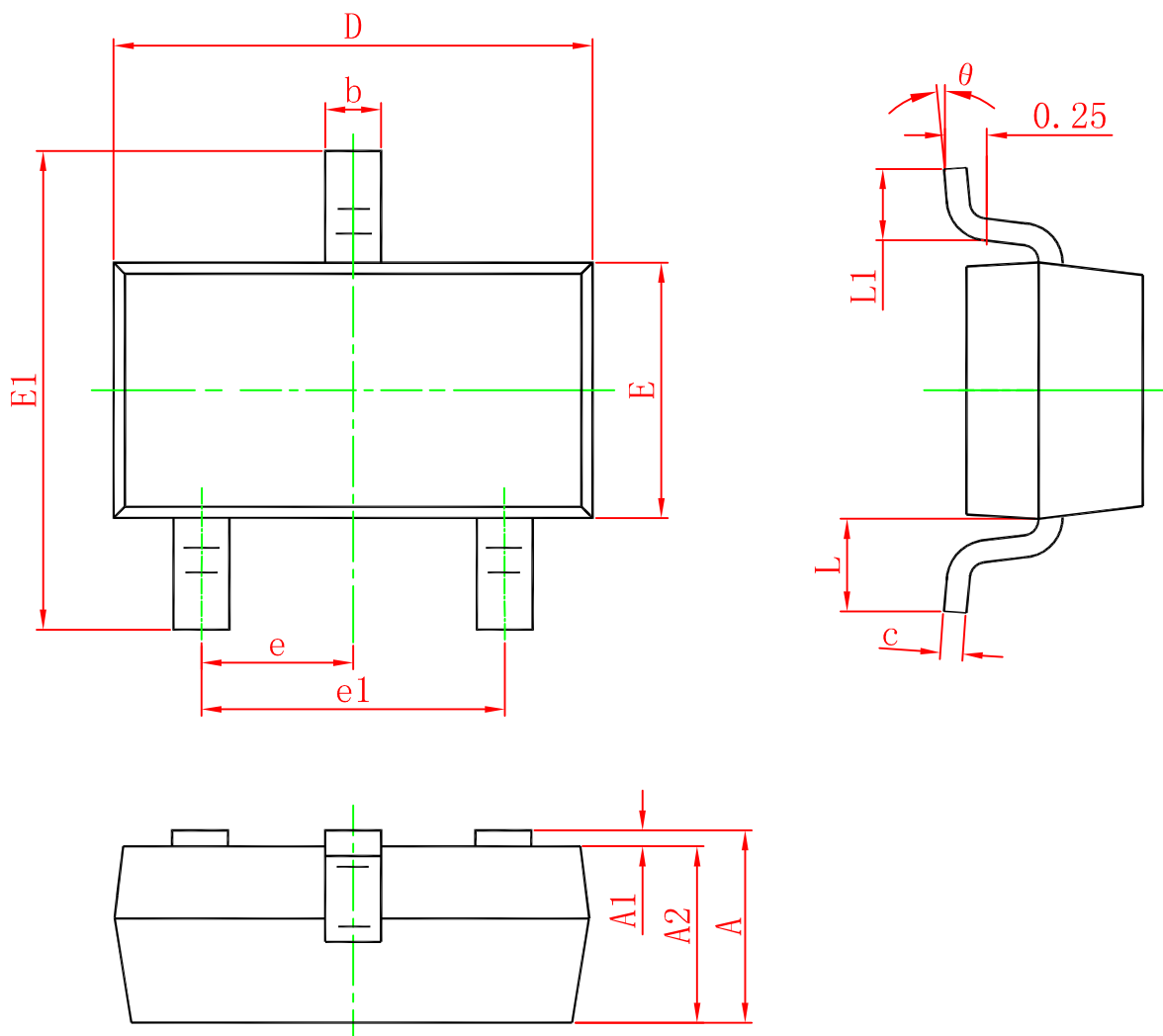
SOT-23 Plastic-Encapsulate MOSFETS

Typical Characteristics



SOT-23 Plastic-Encapsulate MOSFETS

SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°