

60V N-Channel Enhancement Mode MOSFET

V_{DS} = 60V

R_{DS(ON)}, V_{GS}@ 10.0V, I_{DS}@ 115mA < 5.0Ω

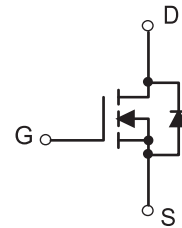
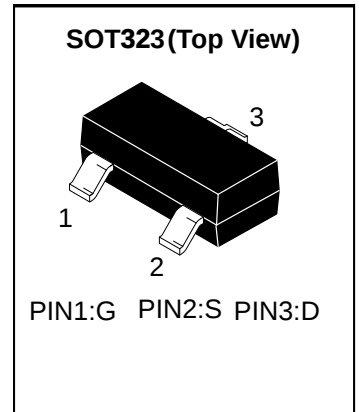
R_{DS(ON)}, V_{GS}@ 5.0V, I_{DS}@ 50.0mA < 7.0Ω

FEATURE

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

APPLICATION

- Portable Devices
- DC/DC Converter



MAXIMUM RATINGS (T_a=25°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	0.200	W
Thermal Resistance from Junction to Ambient	R _{θJA}	625	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-50 ~+150	

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MOSFET ELECTRICAL CHARACTERISTICS

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 _{(GS)th}	V _{DS} =V _{GS} , I _D =250 μA	1	1.6	2.5	
Gate-body Leakage	I _{GSS}	V _{DS} =0 V, V _{GS} =±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60 V, V _{GS} =0 V			100	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 =500mA			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	

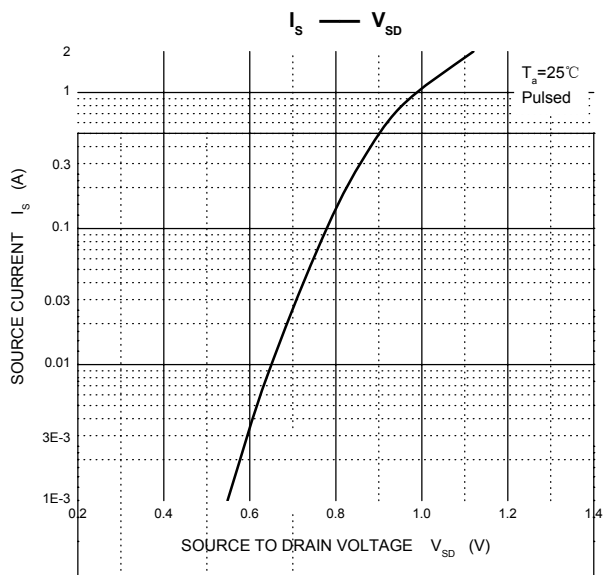
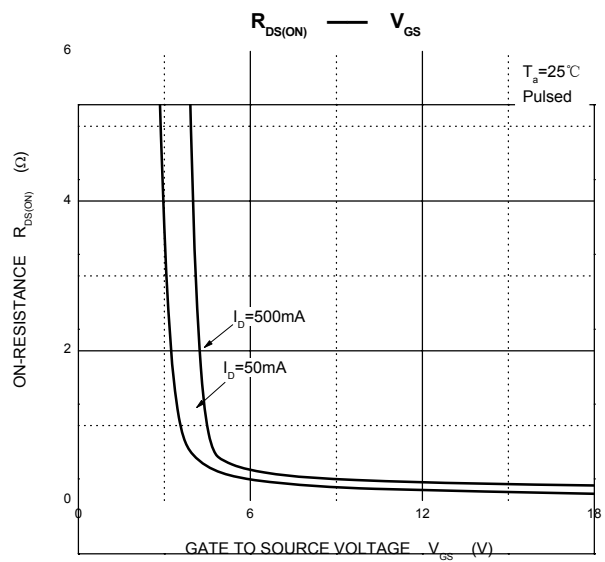
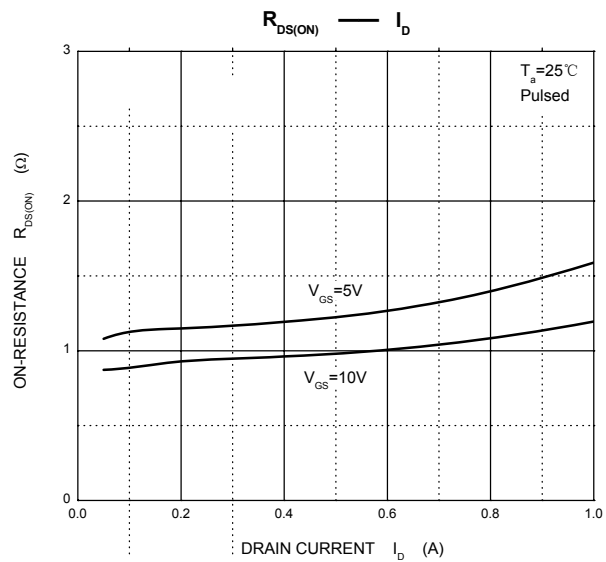
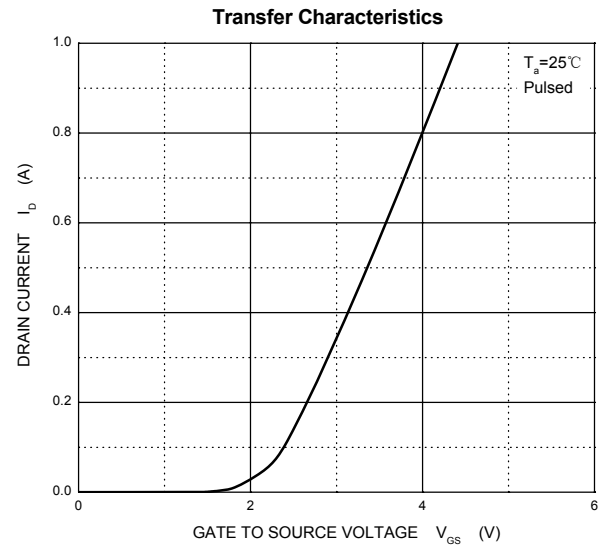
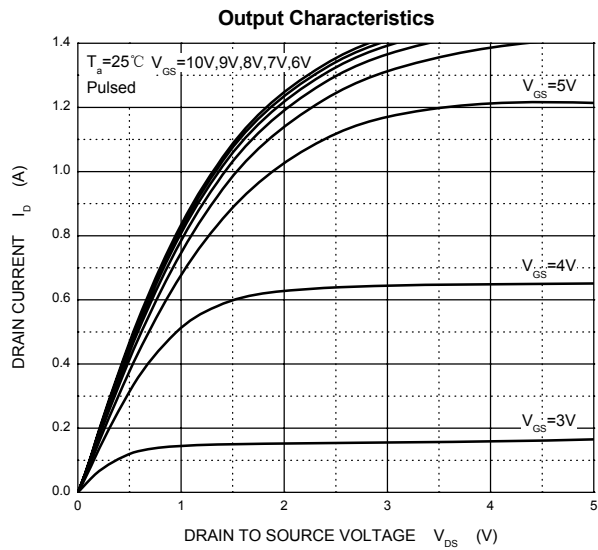
SWITCHING TIME

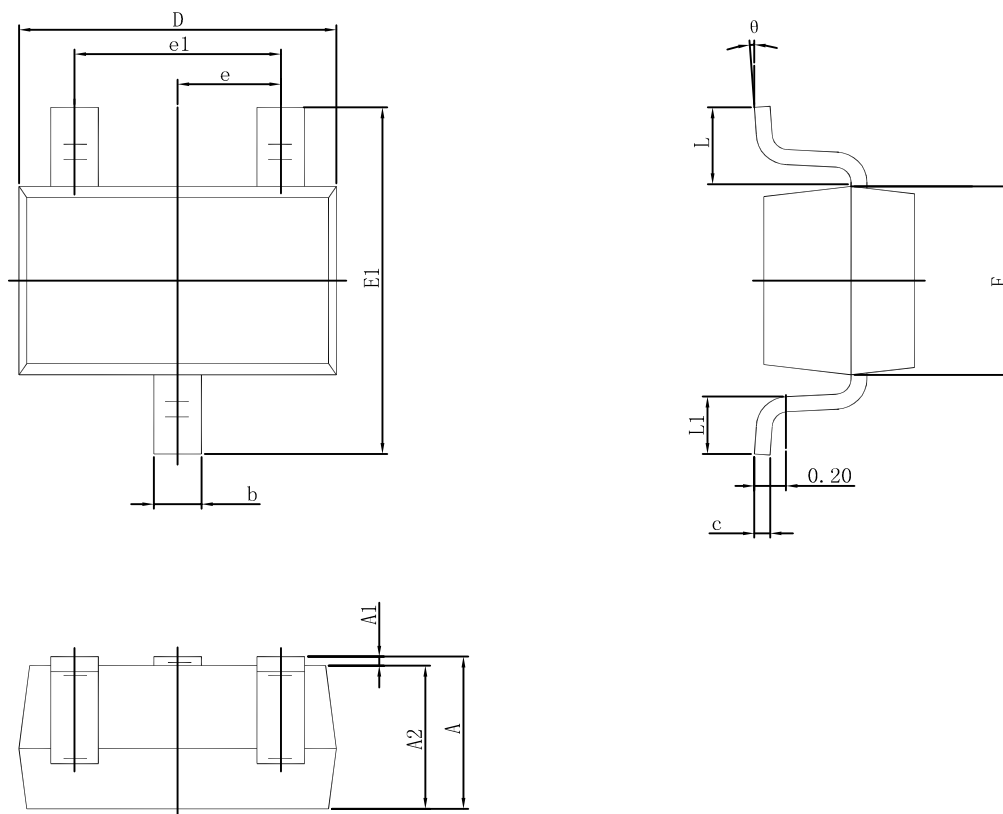
Turn-on Time*	t _{d(on)}	V _{DD} =25 V, R _L =50Ω, I _D =500mA, V _{GEN} =10 V R _G =25Ω			20	ns
Turn-off Time*	t _{d(off)}				40	

*These parameters have no way to verify.

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Typical Characteristics



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SOT-323 PACKAGE OUTLINE DIMENSIONS


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°