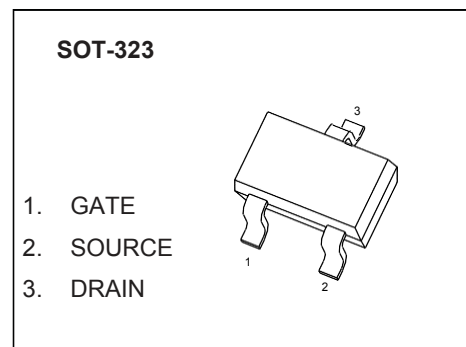


Plastic-Encapsulate MOSFETS

N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60 V	5K@10V	340mA
	5.3K@4.5V	



FEATURE

- z High density cell design for Low $R_{DS(on)}$
- z Voltage controlled small signal switch
- z Rugged and reliable
- z High saturation current capability
- z ESD protected

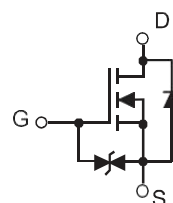
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Continuous Drain Current	340	mA
I_{DM}	Pulsed Drain Current (note 1)	800	mA
P_D	Power Dissipation	0.2	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	$^\circ\text{C/W}$

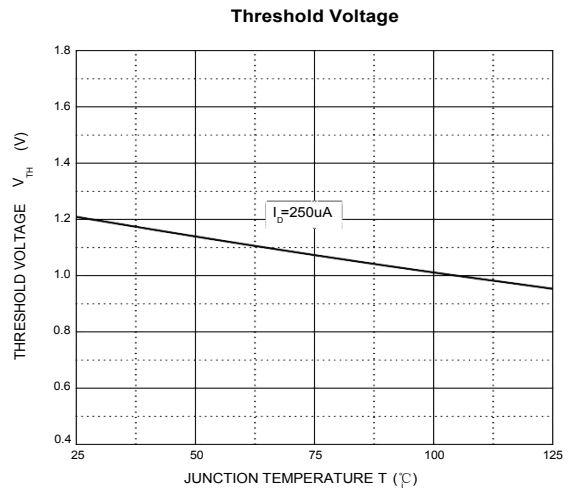
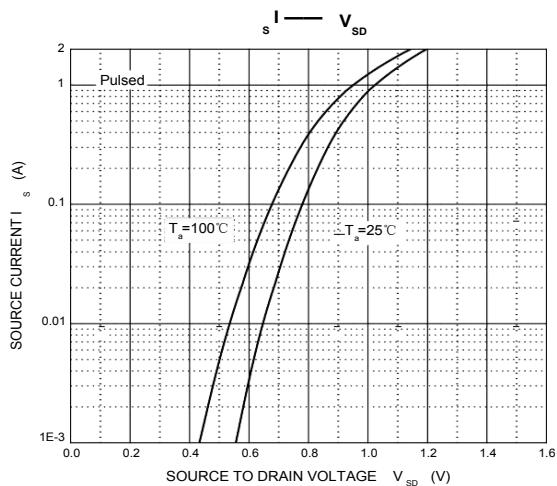
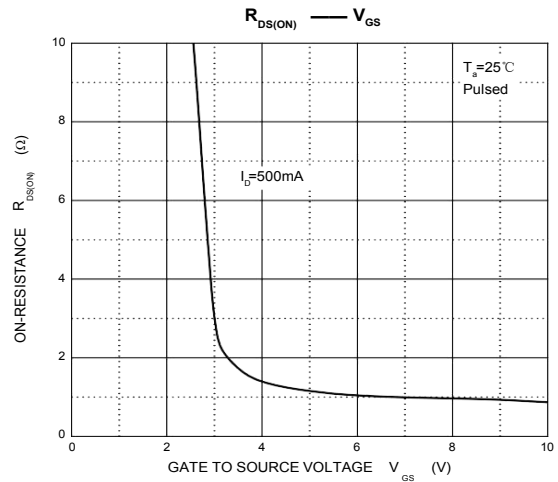
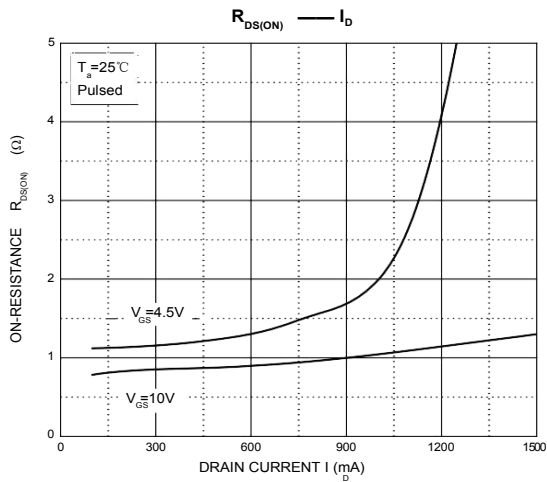
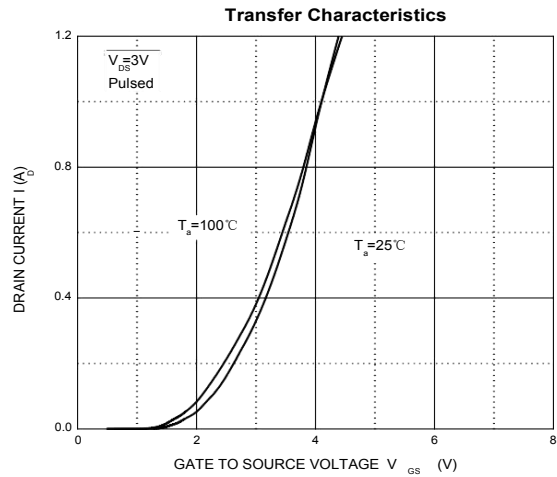
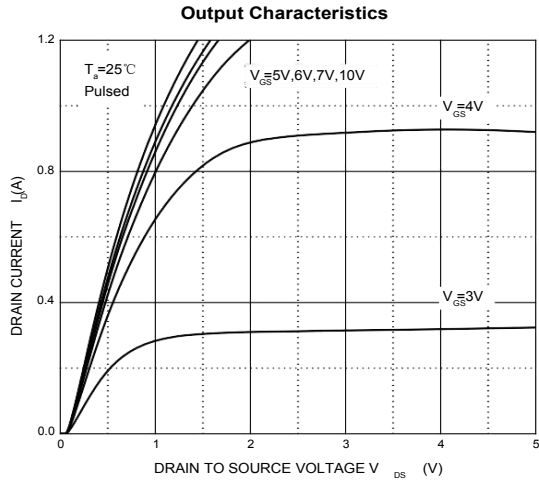
MOSFET ELECTRICAL CHARACTERISTICS
T_a=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
GateThreshold Voltage (note 2)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1mA	1	1.3	2.5	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 48V, V _{GS} = 0V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±10	μA
Drain-Source On-Resistance (note 2)	R _{DS(on)}	V _{GS} = 4.5V, I _D = 200mA		1.1	5.3	Ω
		V _{GS} = 10V, I _D = 500mA		0.9	5	Ω
DYNAMIC PARAMETERS (note 3)						
Input Capacitance	C _{iss}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz			40	pF
Output Capacitance	C _{oss}				30	pF
Reverse Transfer Capacitance	C _{rss}				10	pF
SWITCHING PARAMETERS (note 3)						
Turn-on Delay Time	t _{d(on)}	V _{GS} = 10V, V _{DD} = 50V, R _G = 50Ω			10	ns
Turn-off Delay Time	t _{d(off)}	R _{GS} = 50Ω, R _L = 250Ω			15	ns
Reverse Recovery Time	t _{rr}	V _{GS} = 0V, I _S = 300mA, V _R = 25V, dI _S /dt = -100A/μs		30		ns
Recovered Charge	Q _r	V _{GS} = 0V, I _S = 300mA, V _R = 25V, dI _S /dt = -100A/μs		30		nC
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV _{GSO}	I _{GS} = 1mA (Open Drain)	21.5		30	V
DRAIN-SOURCE DIODE						
Diode Forward Voltage (note 2)	V _{SD}	I _S = 300mA, V _{GS} = 0V			1.5	V
Continuous Diode Forward Current	I _S				0.2	A
Pulsed Diode Forward Current (note 1)	I _{SM}				0.53	A

Notes :

1. Repetitive rating → Pulse width limited by junction temperature.
2. Pulse Test : Pulse width > 300μs, duty cycle > 2%.
3. Guaranteed by design, not subject to production testing.

Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-323

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