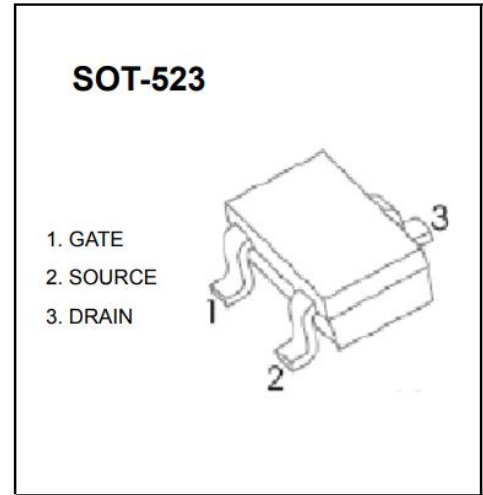


Plastic-Encapsulate MOSFETS

N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	380 mΩ@4.5V	0.75A
	450 mΩ@2.5V	
	800 mΩ@1.8V	



FEATURE

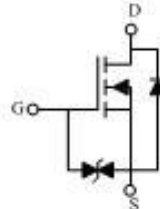
- High-Side Switching
- Low On-Resistance
- Low Threshold
- Fast Switching Speed

APPLICATION

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

MARKING:34K

Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	V_{DSS}	20	V
Typical Gate-Source Voltage	V_{GS}	± 12	
Drain Current-Continuous	I_D	0.75	A
Drain Current -Pulsed(note1)	I_{DM}	1.5	
Power Dissipation (note 2)	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}C/W$
Storage Temperature	T_j	150	$^{\circ}C$
Junction Temperature	T_{stg}	-55 ~+150	

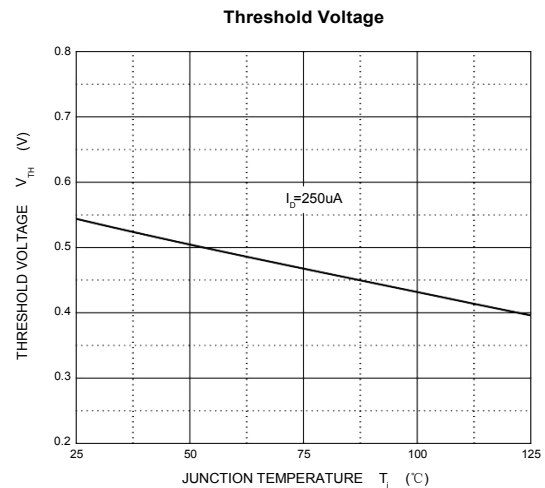
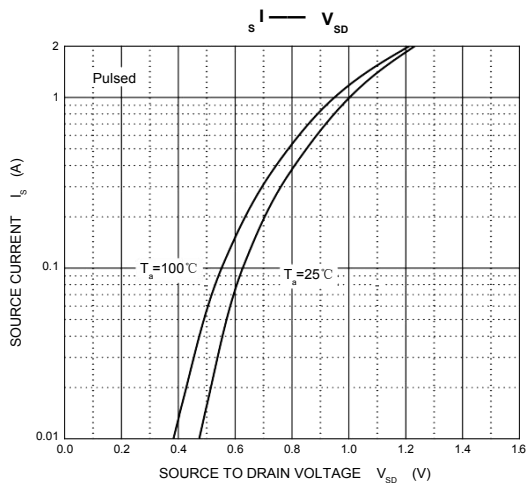
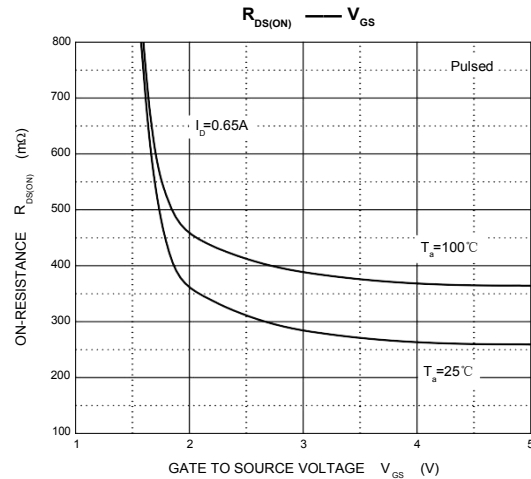
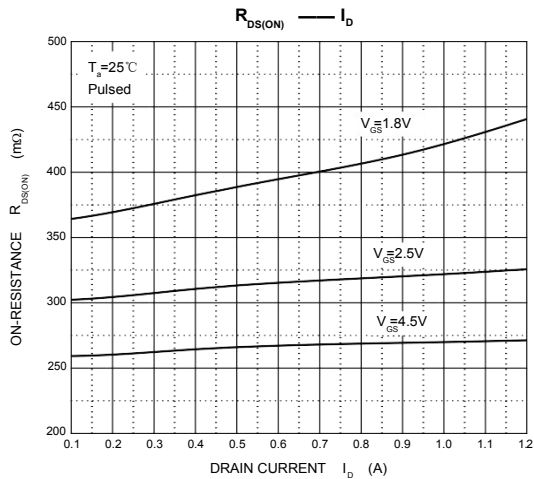
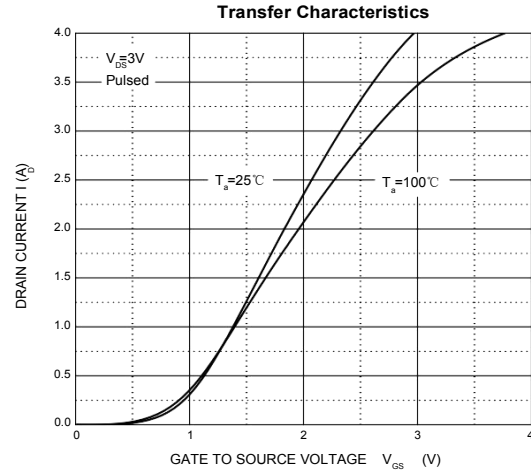
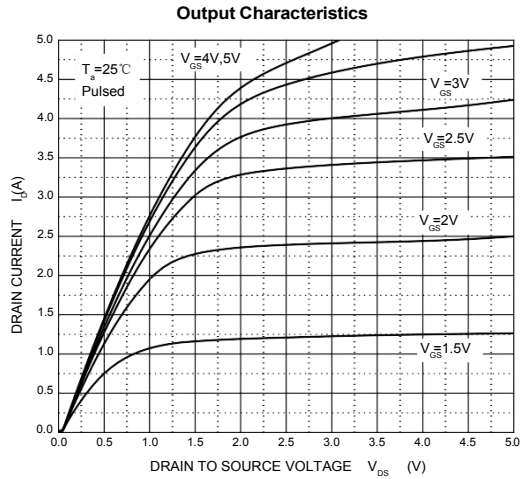
MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
On/Off States						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Gate-Threshold Voltage(note 3)	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.35		1.1	
Gate-Body Leakage Current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±10V			±20	μA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V			1	μA
Drain-Source On-State Resistance(note 3)	R _{DS(on)}	V _{GS} = 4.5V, I _D = 650mA			380	mΩ
		V _{GS} = 2.5V, I _D = 550mA			450	
		V _{GS} = 1.8V, I _D = 450mA			800	
Forward Transconductance	g _{FS}	V _{DS} = 10V, I _D = 800mA	1			S
Switching Times (note 4)						
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10V, I _D = 500mA, V _{GS} = 4.5V, R _G = 10Ω		6.7		ns
Rise Time	t _r			4.8		
Turn-Off Delay Time	t _{d(off)}			17.3		
Fall Time	t _f			7.4		
Drain-Source Diode Characteristics						
Drain-Source Diode Forward Voltage (note 3)	V _{SD}	I _S = 0.15A, V _{GS} = 0V			1.2	V

Notes:

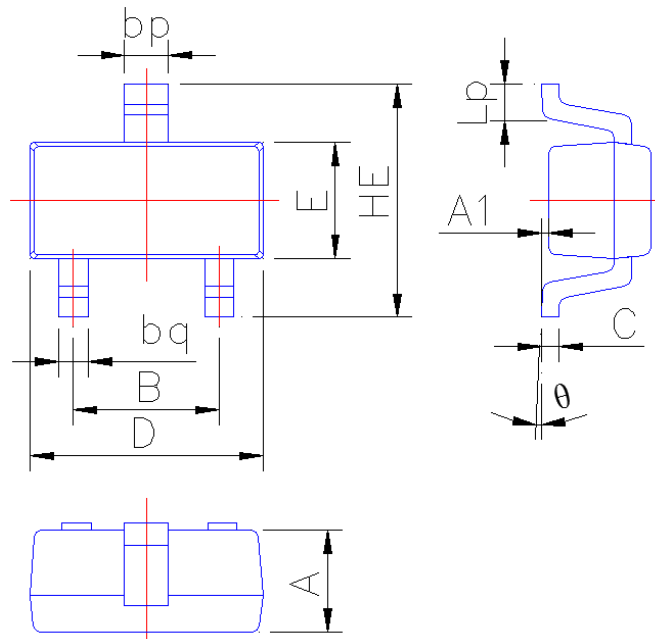
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a = 25°C.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%.
4. These parameters have no way to verify.



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-523



Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°