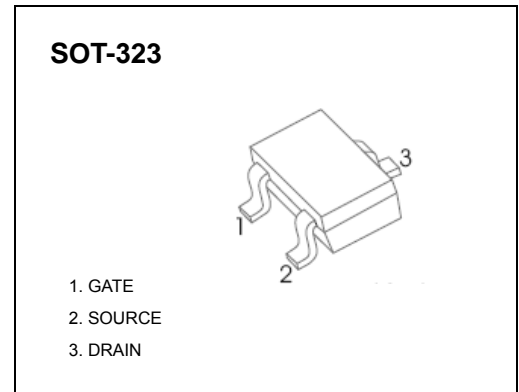


### SOT-323 Plastic-Encapsulate MOSFETS

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

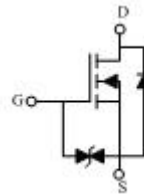
- High-Side Switching
- Low On-Resistance
- Low Threshold
- Fast Switching Speed

**MARKING:**34K

#### APPLICATION

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

#### Equivalent Circuit



**Maximum ratings ( $T_a=25^\circ\text{C}$  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	$^\circ\text{C}/\text{W}$
Storage Temperature	$T_j$	150	$^\circ\text{C}$
Junction Temperature	$T_{stg}$	-55 ~+150	

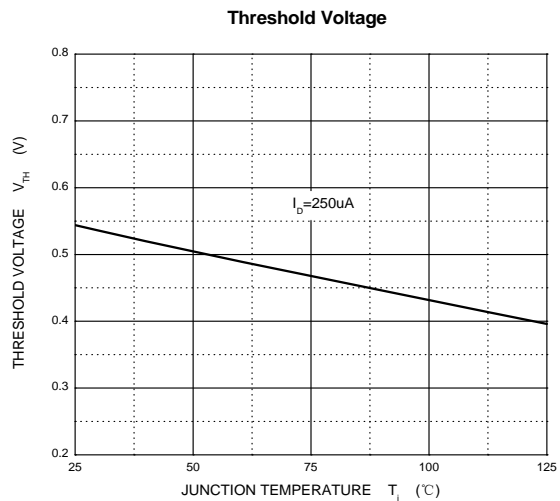
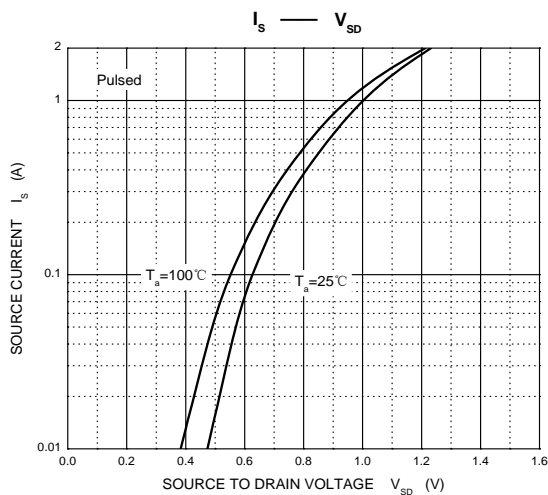
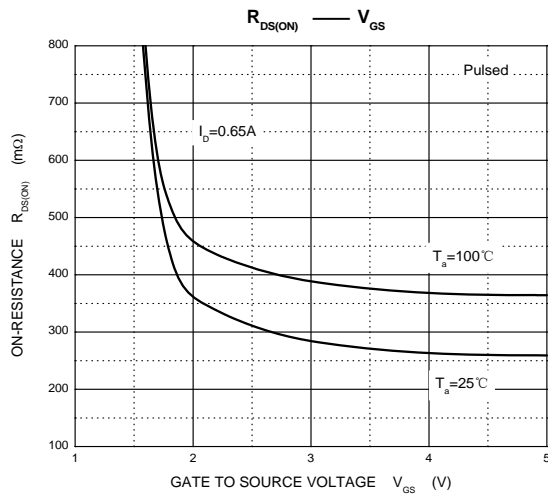
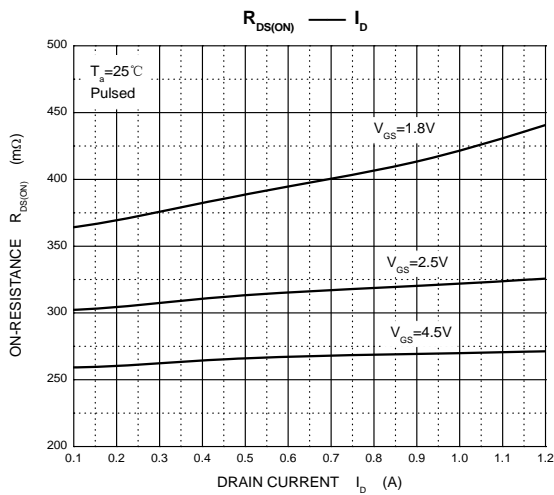
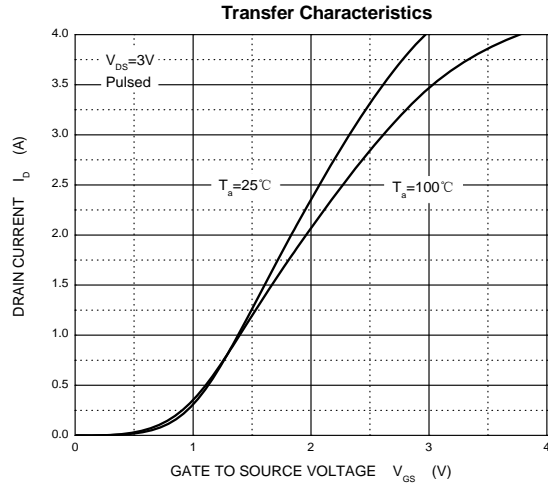
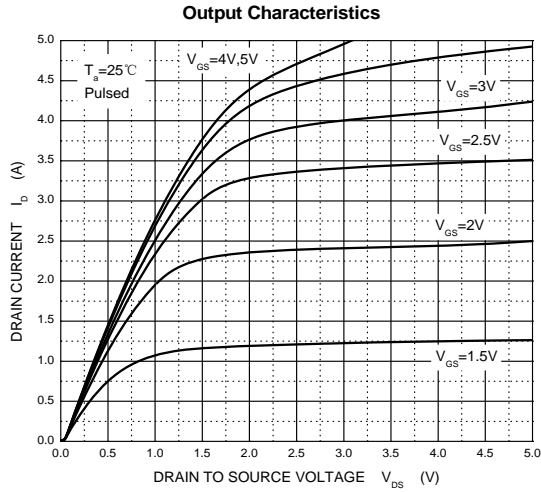
## MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>On/Off States</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Gate-Threshold Voltage(note 3)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35		1.1	
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 10V$			$\pm 20$	$\mu A$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20V, V_{GS} = 0V$			1	$\mu A$
Drain-Source On-State Resistance(note 3)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 650mA$			380	m $\Omega$
		$V_{GS} = 2.5V, I_D = 550mA$			450	
		$V_{GS} = 1.8V, I_D = 450mA$			800	
Forward Transconductance	$g_{FS}$	$V_{DS} = 10V, I_D = 800mA$	1			S
<b>Switching Times (note 4)</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10V, I_D = 500mA,$ $V_{GS} = 4.5V, R_G = 10\Omega$		6.7		ns
Rise Time	$t_r$			4.8		
Turn-Off Delay Time	$t_{d(off)}$			17.3		
Fall Time	$t_f$			7.4		
<b>Drain-Source Diode Characteristics</b>						
Drain-Source Diode Forward Voltage (note 3)	$V_{SD}$	$I_S = 0.15A, V_{GS} = 0V$			1.2	V

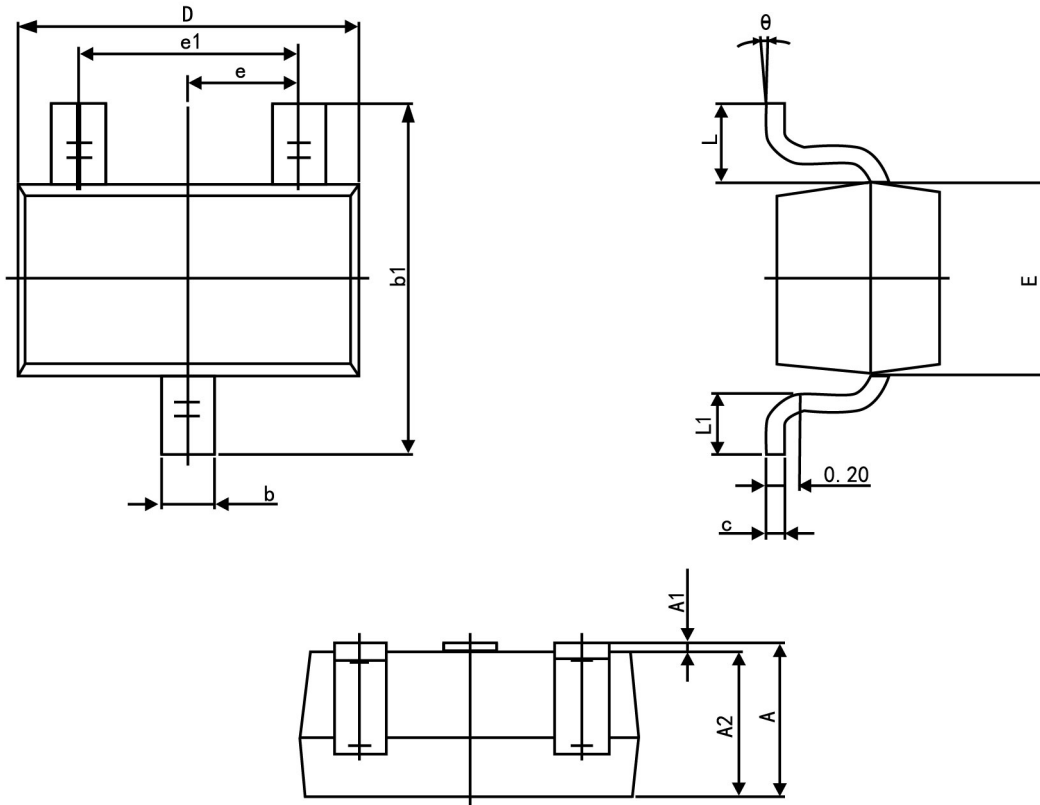
**Notes:**

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at  $T_a=25^\circ\text{C}$ .
3. Pulse Test : Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 0.5\%$ .
4. These parameters have no way to verify.





### SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.200	0.400
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
θ	0°	8°