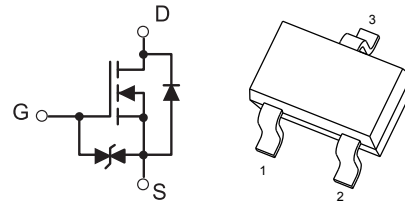


**Features**

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

SOT-323

1. Gate
2. Source
3. Drain

Mechanical Data

- Case:Molded Plastic,SOT-323 .
- Epoxy:UL 94V-0 rate flame retardant
- Marking: **72K** .
- Mounting Position : Any.

Maximum Ratings

Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Continuous)	I_D	340	mA
Pulsed Drain Current(note1)	I_{DM}	800	mA
Total power Dissipation	P_D	200	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	625	°C/W
Operating Temperature Range,	T_j	150	°C
Storage Temperature Range	T_{STG}	-55 — +150	°C

Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	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}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 10	μA
Drain-Source On-Resistance (note 2)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 200mA$		1.1	3	Ω
		$V_{GS} = 10V, I_D = 500mA$		0.9	2.5	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



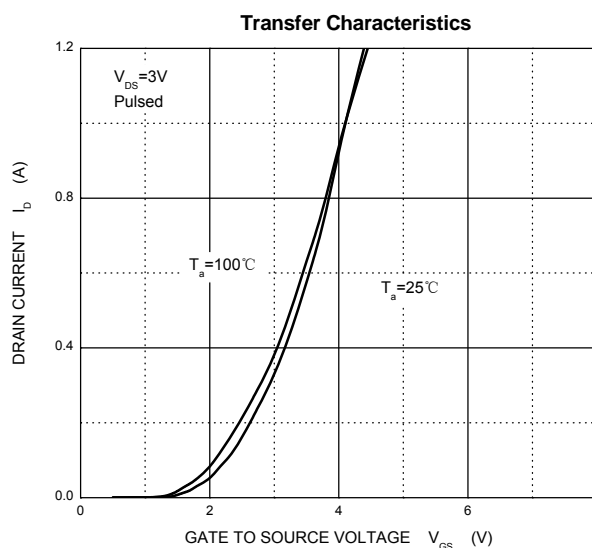
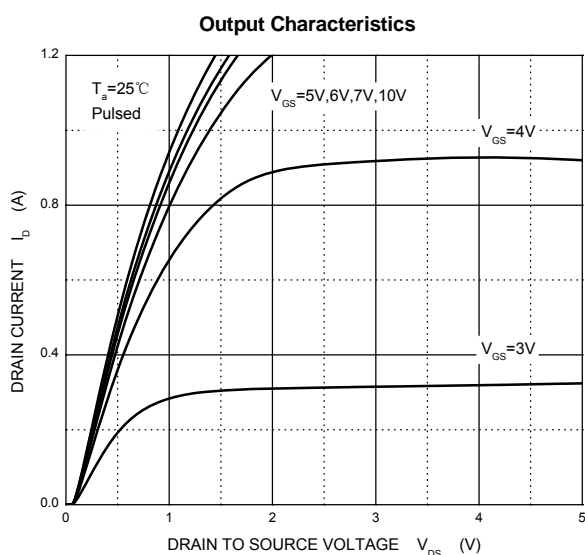
SWITCHING PARAMETERS(note 3)

Turn-on Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DD}=50V, R_G=50\Omega$		10	ns
Turn-off Delay Time	$t_{d(off)}$	$R_{GS}=50\Omega, R_L=250\Omega$		15	ns
Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_S=300mA, V_R=25V,$ $dI_S/dt=-100A/us$	30		ns
Recovered Charge	Q_r	$V_{GS}=0V, I_S=300mA, V_R=25V$ $dI_S/dt=-100A/us$	30		nC
GATE-SOURCE ZENER DIODE					
Gate-Source Breakdown Voltage	BV_{GSO}	$I_{GS}=\pm 1mA$ (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(note1)	I_{SM}			0.53	A

Notes :

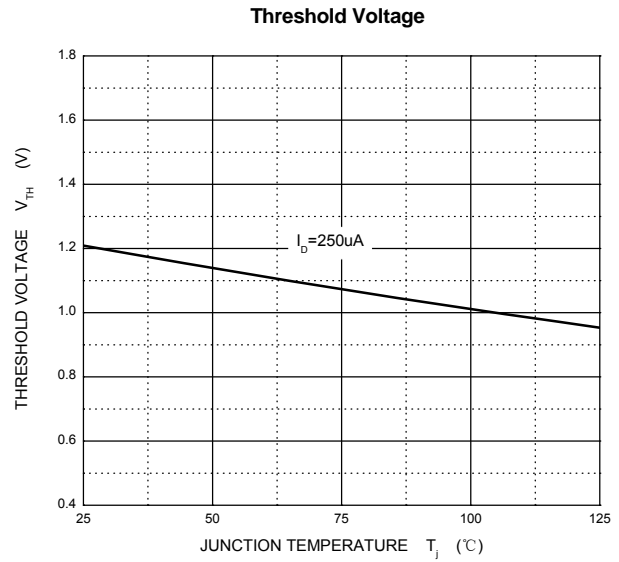
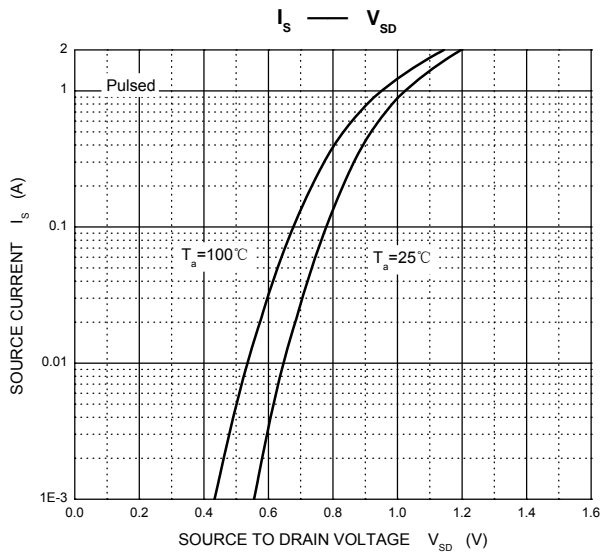
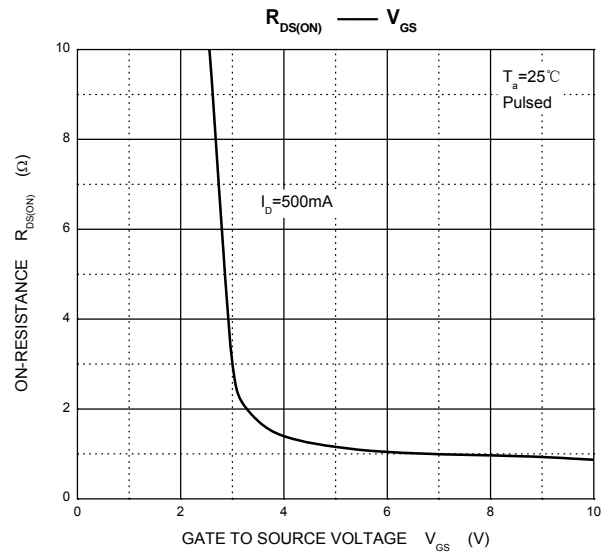
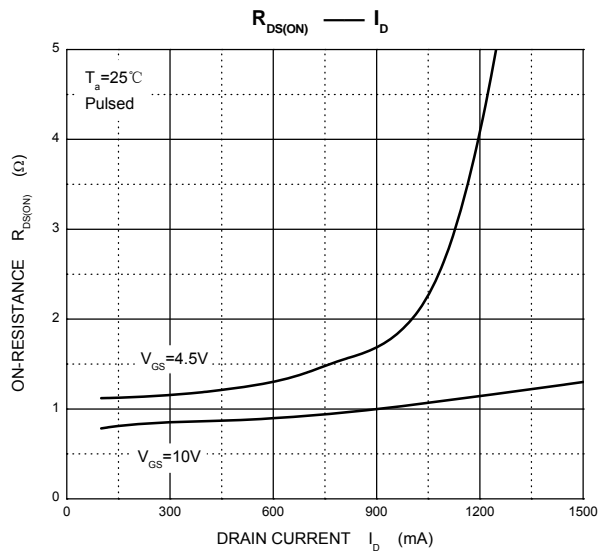
1. Repetitive rating: Pulse width limited by junction temperature.
2. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
3. Guaranteed by design, not subject to production testing.

Electrical Characteristics $T_a = 25^\circ C$ unless otherwise specified



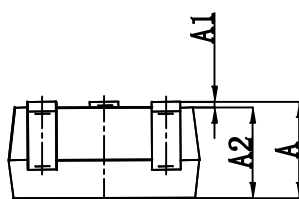
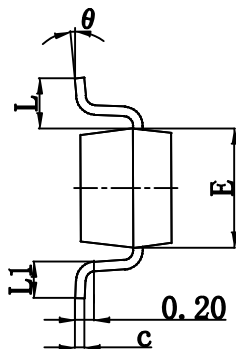
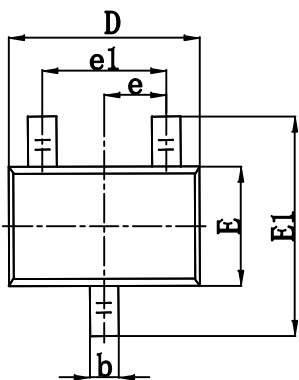


Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise specified





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°



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