

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	$3\Omega@10V$	0.34A
	$5\Omega@4.5V$	

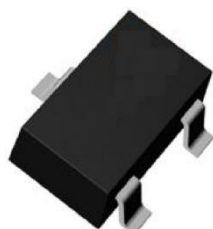
Feature

- Low input Capacitance
- Fast Switching Speed
- Low Input /Output Leakage
- ESD Protected

Application

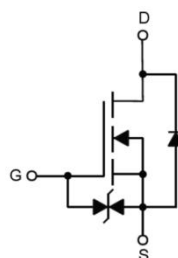
- Load Switch for Portable Devices
- Voltage controlled small signal switch

Package

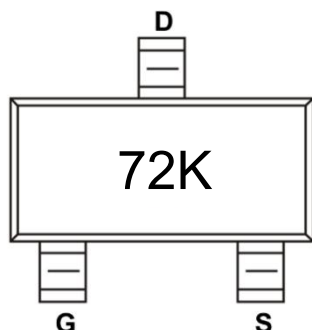


SOT-23

Circuit diagram



Marking



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹⁾	I_D	0.34	A
Pulsed Drain Current ²⁾	I_{DM}	1.2	A
Power Dissipation ¹⁾	P_D	0.15	W
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Electrical characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 10	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1		2	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.5A$		1.6	3	Ω
		$V_{GS} = 4.5V, I_D = 0.2A$		2	5	
Dynamic characteristics ³⁾						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		31		pF
Output Capacitance	C_{oss}			11		
Reverse Transfer Capacitance	C_{rss}			3		
Total Gate Charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 0.25A$		0.3		nC
Gate-Source Charge	Q_{gs}			0.2		
Gate-Drain Charge	Q_{gd}			0.08		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30V, V_{GS} = 10V, I_D = 0.2A, R_G = 25\Omega,$		7		nS
Turn-off delay time	$t_{d(off)}$			11		
Source-Drain Diode characteristics						
Diode Forward Current	I_S				0.34	A
Diode Forward voltage	V_{SD}	$V_{GS} = 0V, I_S = 1A$			1.5	V
Reverse Recovery Time	T_{rr}	$I_S = 0.3A, di/dt = -100A/\mu s$		30		nS
Reverse Recovery Charge	Q_{rr}			30		nC

Notes:

- 1) For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
- 2) Repetitive rating 25mm x 25mm FR4 PCB, $D = 0.02$, pulse width 300 μs - pulse width limited by maximum junction temperature.
- 3) Guaranteed by design, not subject to production testing.

Typical Characteristics

Fig. 1 - Output Characteristics

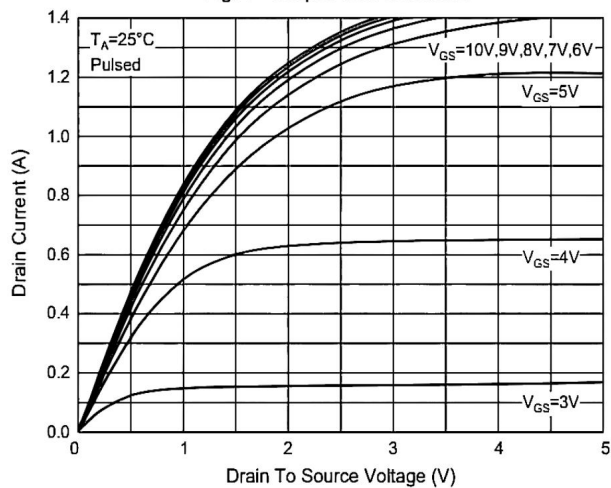


Fig. 2 - Transfer Characteristics

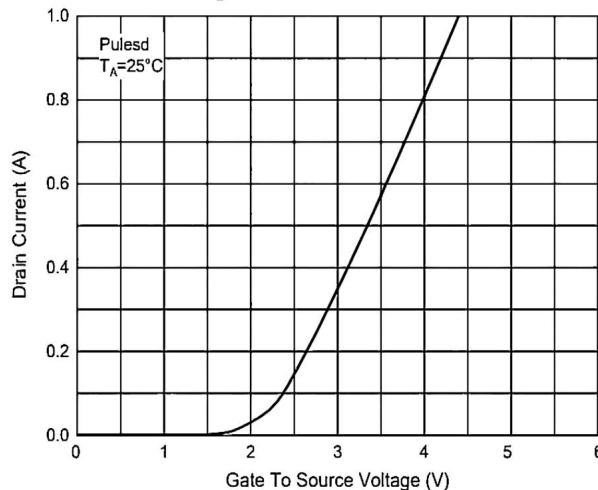


Fig. 3 - $R_{DS(ON)} - I_D$

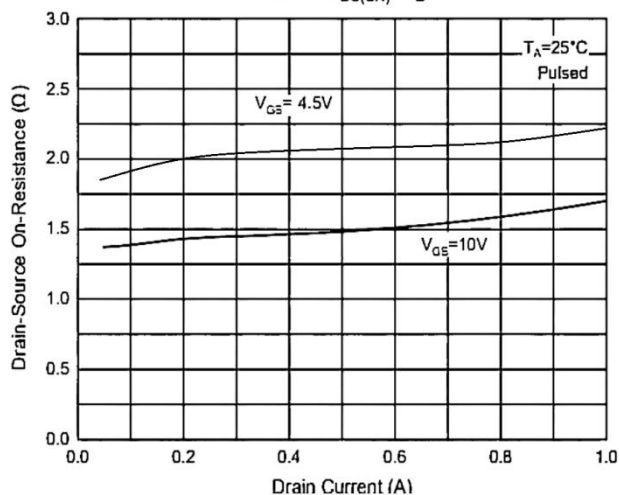


Fig. 4 - $R_{DS(ON)} - V_{GS}$

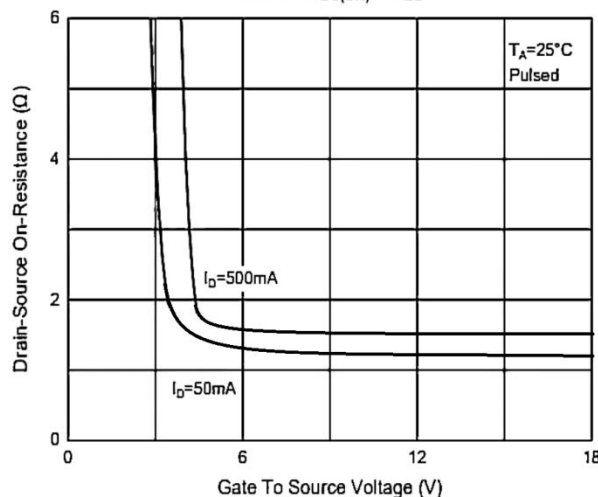
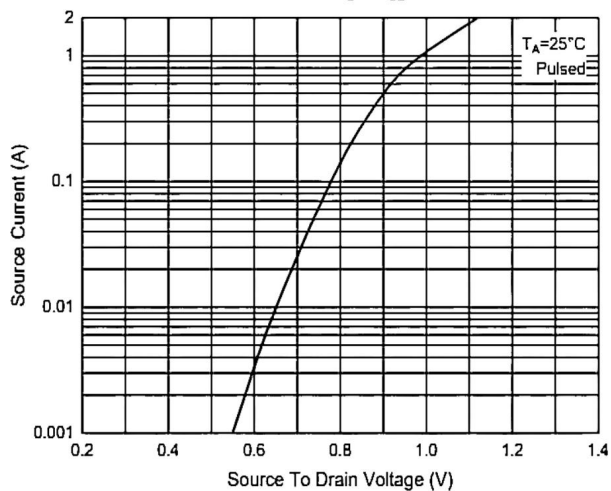
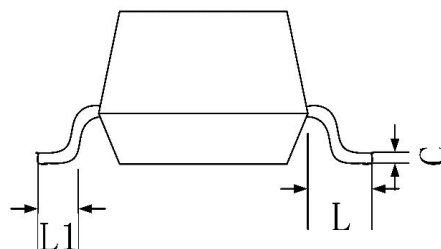
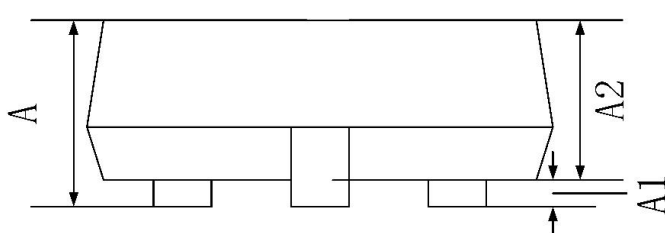
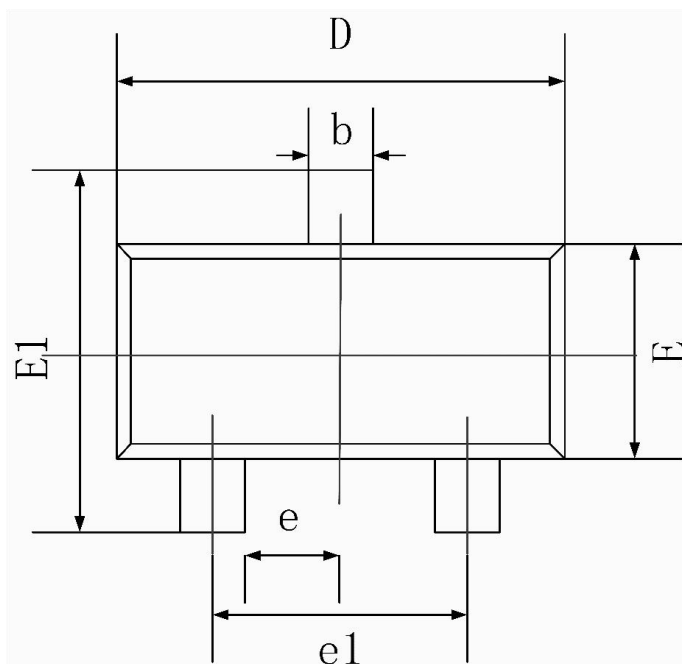


Fig. 5 - $I_S - V_{SD}$



SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
C	0.080	0.200	0.003	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020