

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
60V	5.0Ω@10V	0.34A
	5.3Ω@4.5V	

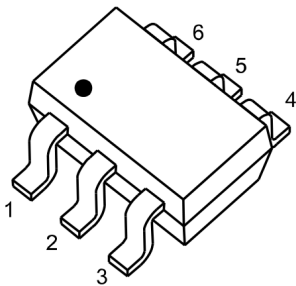
### Feature

- High density cell design for ultra low on-resistance
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected
- Suffix "-Q1" for AEC-Q101

### Application

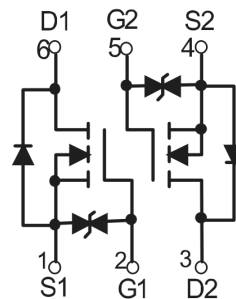
- Load Switch for Portable Devices
- DC/DC Converter

### Package

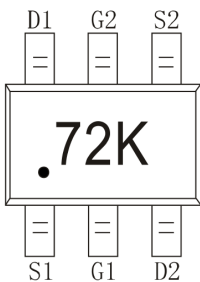


SOT-363

### Circuit diagram



### Marking



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

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

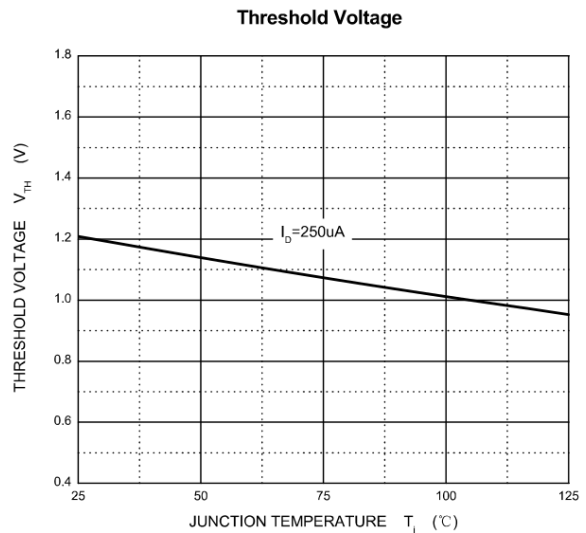
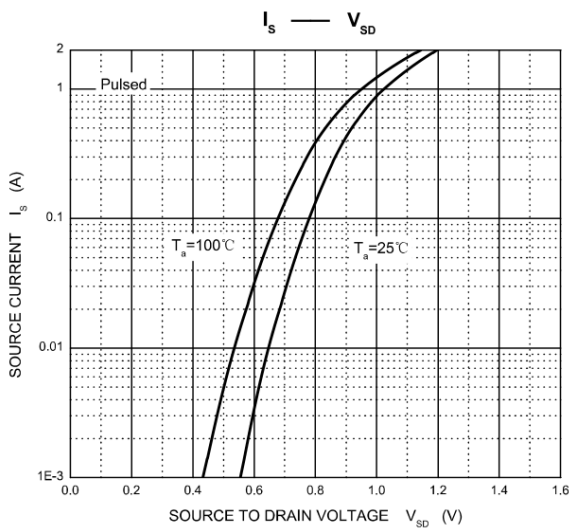
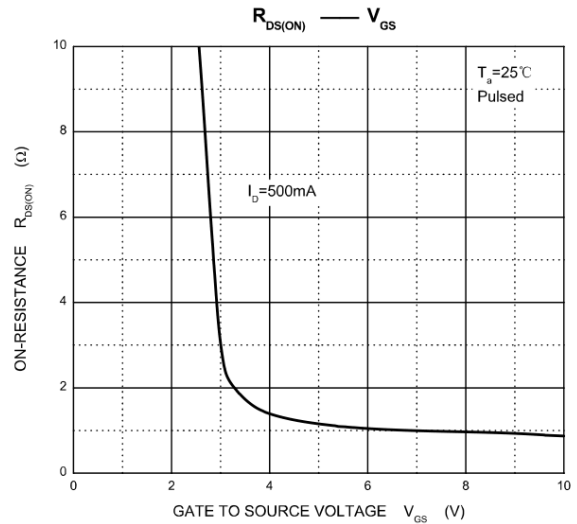
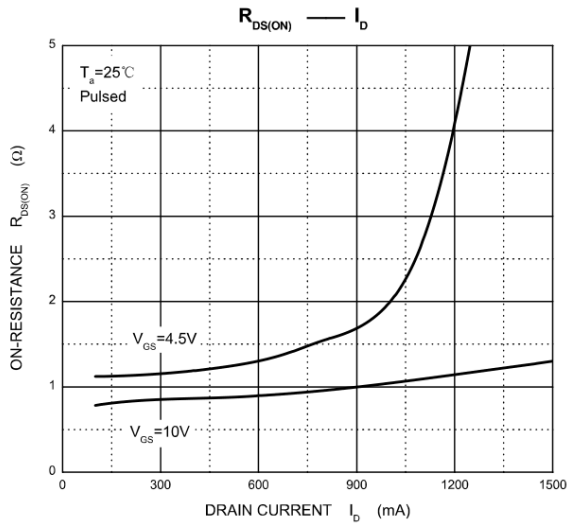
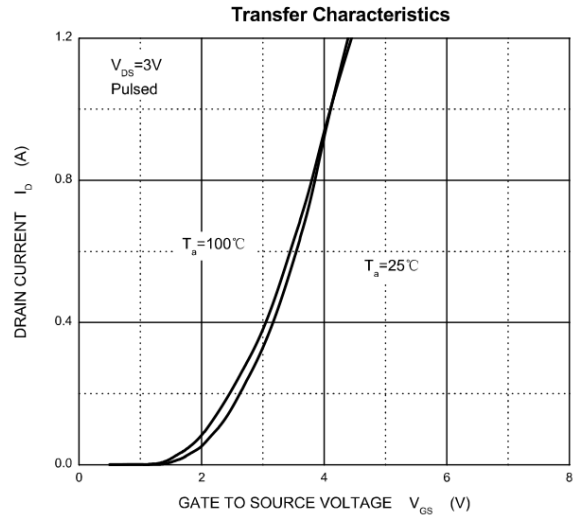
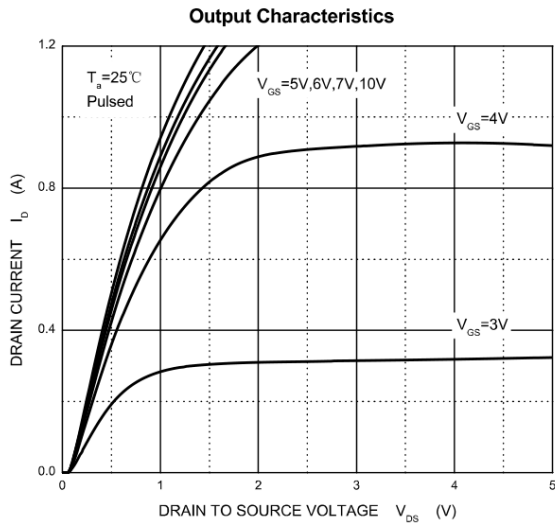
### Electrical characteristics ( $T_A=25\text{ }^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	60			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 48V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 10$	$\mu A$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0		2.5	V
Drain-source on-resistance <sup>1)</sup>	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.5A$		0.9	5	$\Omega$
		$V_{GS} = 4.5V, I_D = 0.2A$		1.1	5.3	
<b>Dynamic characteristics<sup>2)</sup></b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$			40	pF
Output Capacitance	$C_{oss}$				30	
Reverse Transfer Capacitance	$C_{rss}$				10	
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 50V, V_{GS} = 10V, R_L = 250\Omega, R_{GEN} = 50\Omega$			10	nS
Turn-off delay time	$t_{d(off)}$				15	
<b>Source-Drain Diode characteristics</b>						
Diode Forward voltage	$V_{DS}$	$V_{GS} = 0V, I_S = 0.3A$			1.5	V

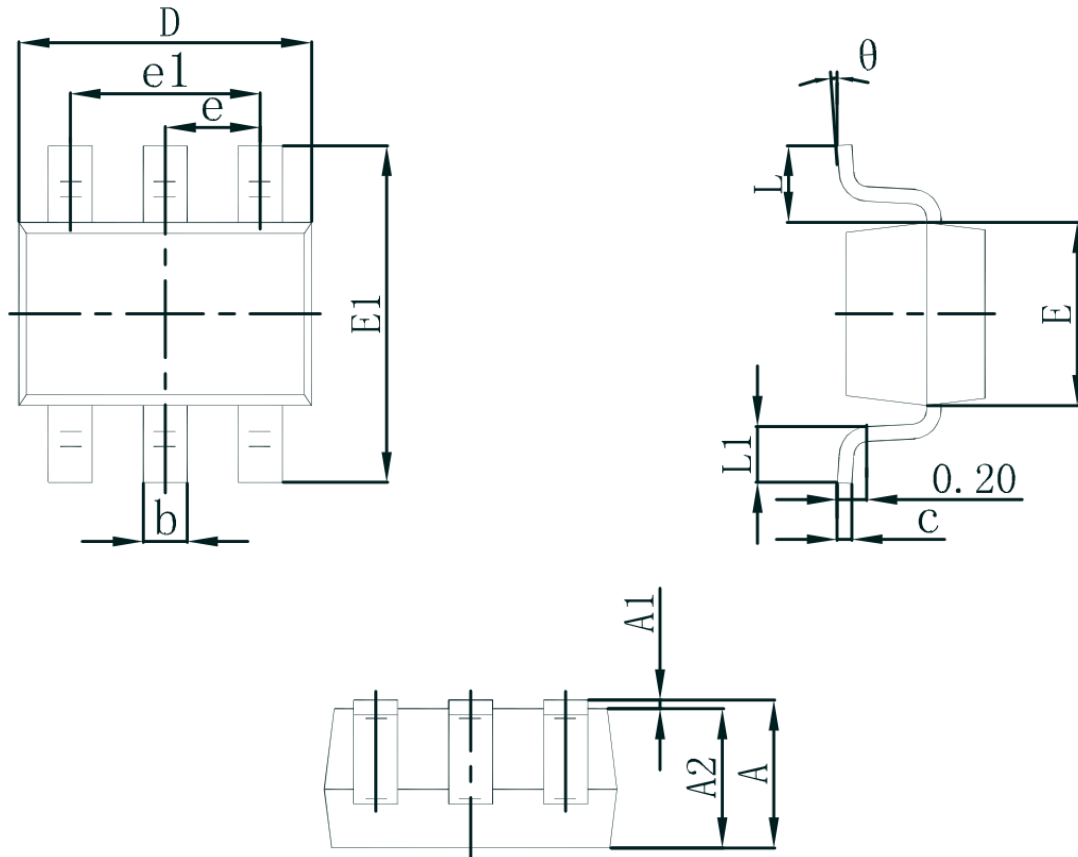
Notes:

- 1) Pulse Test: Pulse Width < 300 $\mu s$ , Duty Cycle  $\leq 2\%$ .
- 2) Guaranteed by design, not subject to production testing.

## Typical Characteristics



### SOT-363 Package Information



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	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
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°