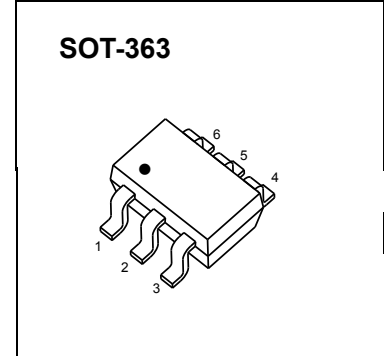


## SOT-363 Plastic-Encapsulate MOSFETs

### Dual N-channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
60V	5Ω@10V	115mA
	7Ω@5V	



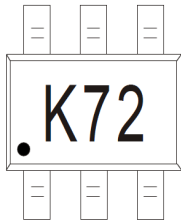
### FEATURE

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

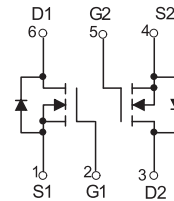
### APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

### MARKING



### Equivalent Circuit



### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{DS}$	Drain-Source voltage	60	V
$V_{GS}$	Gate-Source voltage	±20	V
$I_D$	Drain Current	115	mA
$P_D$	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^\circ\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=250\ \mu\text{A}$	60			V
Gate-threshold voltage *	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1	1.6	2.5	
Gate-body leakage	$I_{GSS}$	$V_{DS}=0\text{ V}, V_{GS}=\pm 20\text{ V}$			$\pm 80$	nA
Zero gate voltage drain current	$I_{DSS}$	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
Drain-source on-resistance *	$R_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{mA}$		1.1	5	$\Omega$
		$V_{GS}=5\text{ V}, I_D=50\text{mA}$		1.2	7	
Forward transconductance *	$g_{fs}$	$V_{DS}=10\text{ V}, I_D=200\text{mA}$	80			ms
Drain-source on-voltage *	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			3.75	V
		$V_{GS}=5\text{V}, I_D=50\text{mA}$			0.375	V
Diode forward voltage	$V_{SD}$	$I_S=115\text{mA}, V_{GS}=0\text{ V}$	0.55		1.2	V
Input capacitance **	$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			50	pF
Output capacitance **	$C_{oss}$				25	
Reverse transfer capacitance **	$C_{rss}$				5	

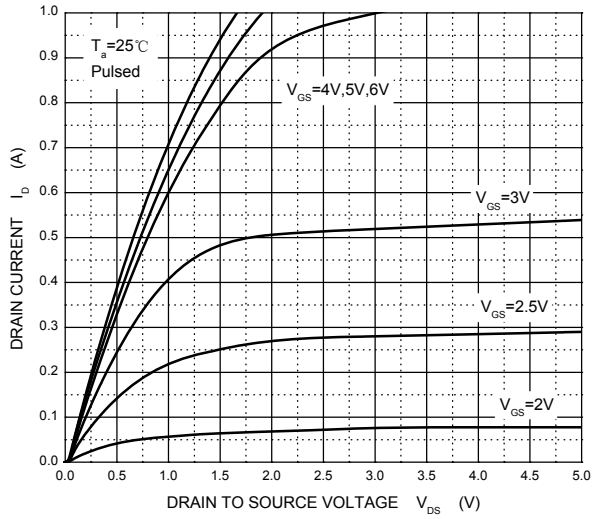
#### SWITCHING TIME

Turn-on time **	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\ \Omega$			20	ns
Turn-off time **	$t_{d(off)}$	$I_D=500\text{mA}, V_{GEN}=10\text{V}, G=25\ \Omega$			40	

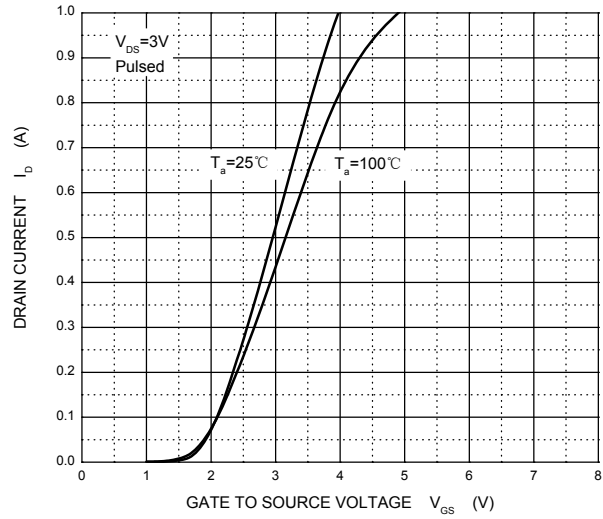
\* Pulse Test: Pulse width  $\leq 300\ \mu\text{s}$ , duty cycle  $\leq 2\%$ .

\*\* These parameters have no way to verify.

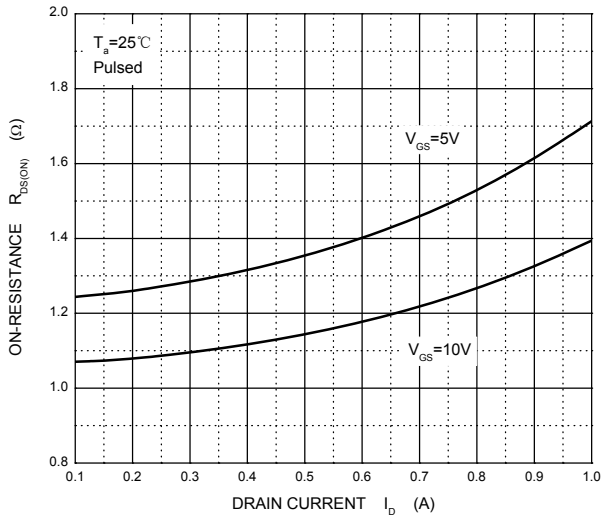
**Output Characteristics**



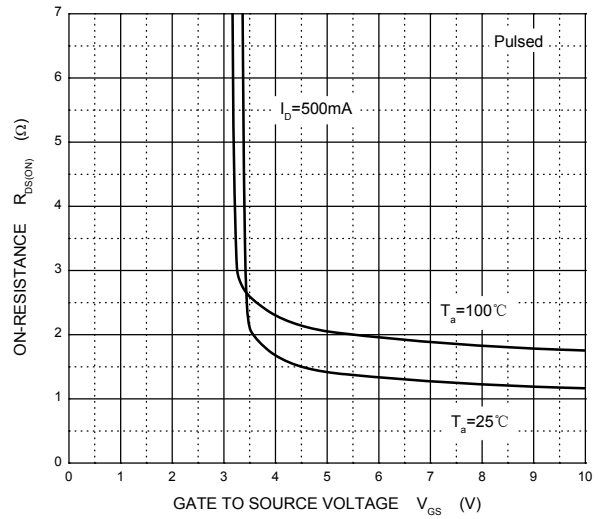
**Transfer Characteristics**



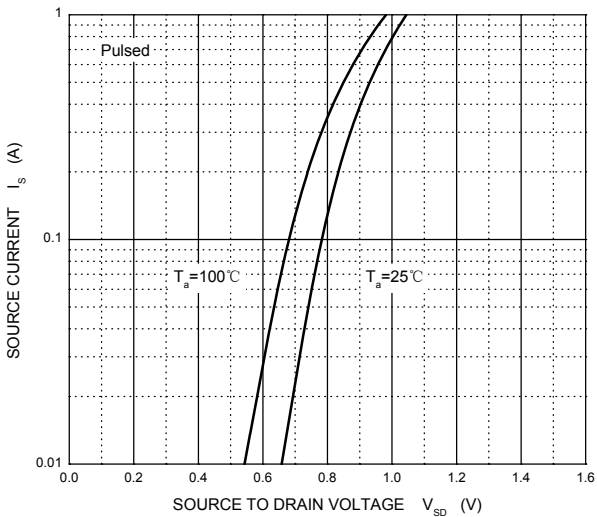
**$R_{DS(ON)}$  —  $I_D$**



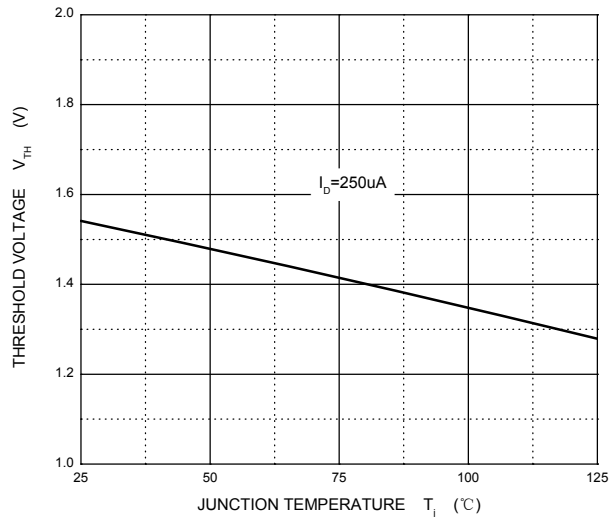
**$R_{DS(ON)}$  —  $V_{GS}$**



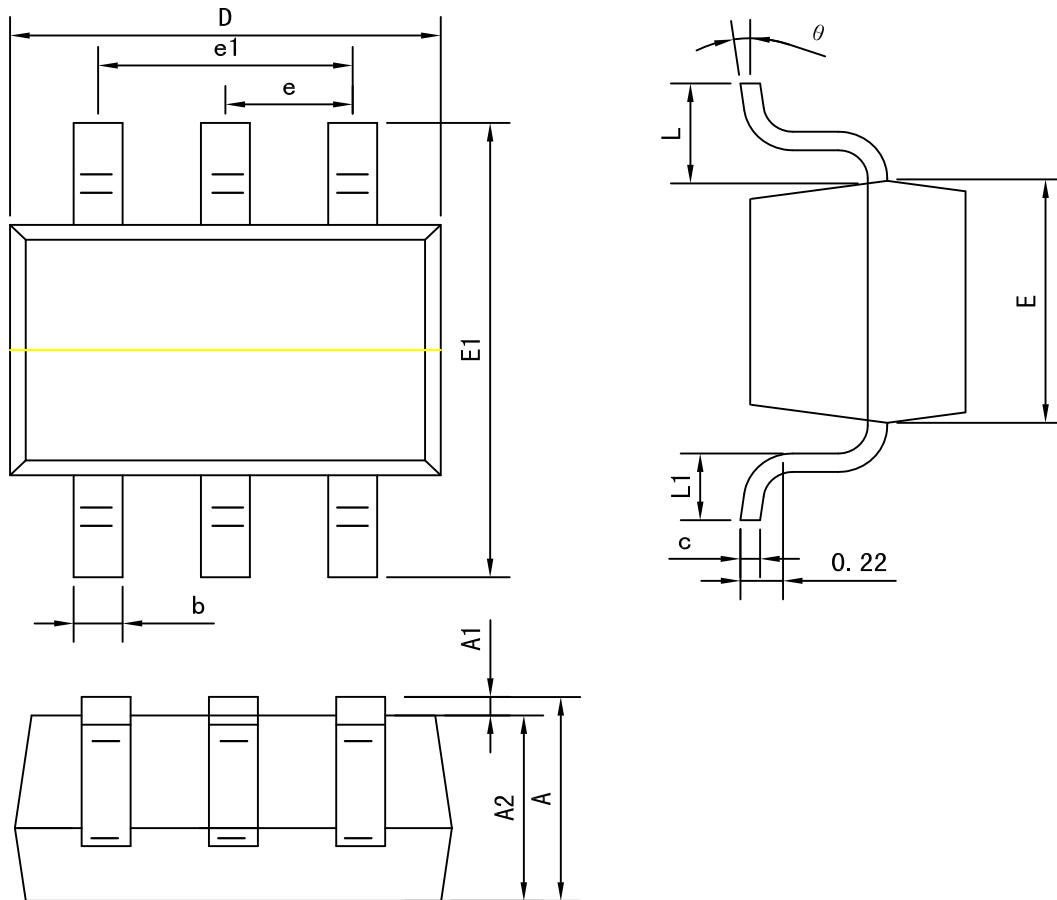
**$I_S$  —  $V_{SD}$**



**Threshold Voltage**



Package outline dimensions SOT-363



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
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°

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