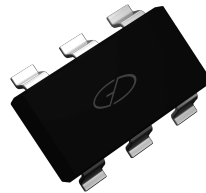
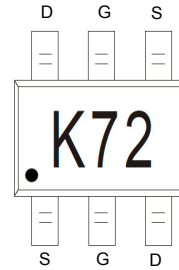


### Main Product Characteristics

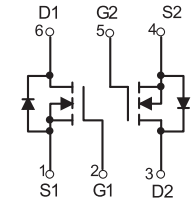
$V_{(BR)DSS}$	60V
$R_{DS(on)MAX}$	5Ω@10V
	7Ω@5V
$I_D$	115mA



SOT-363



Marking and Pin Assignment



Schematic Diagram

### Features and Benefits

- Advanced MOSFET process technology
- Ideal for battery operated systems, load switching, power converters and other general purpose applications
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



### Description

The SSF72DW utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supply and a wide variety of other applications.

### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

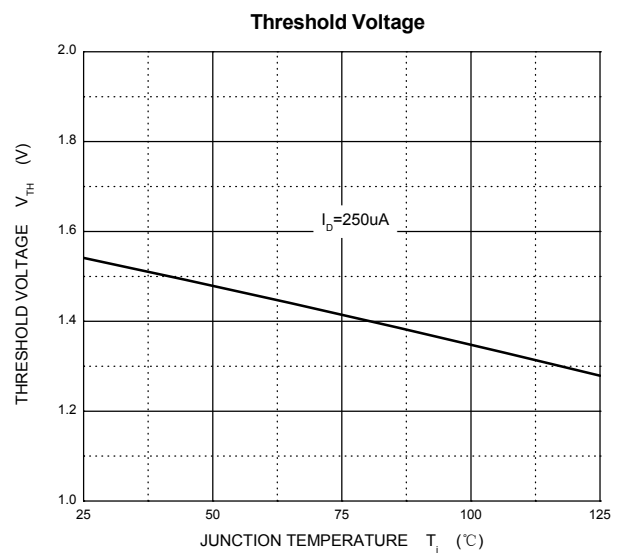
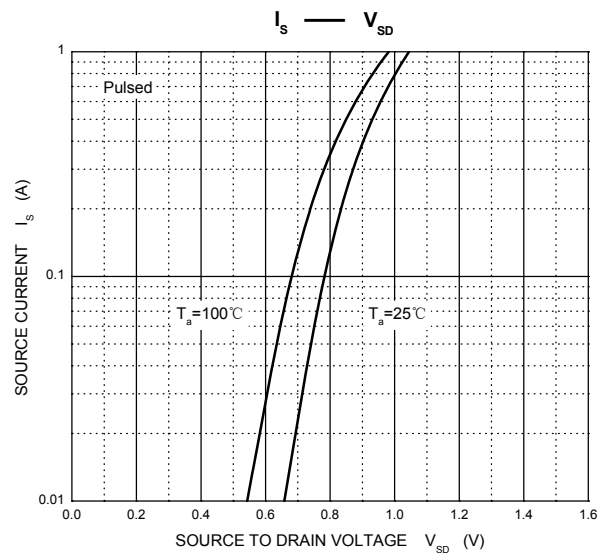
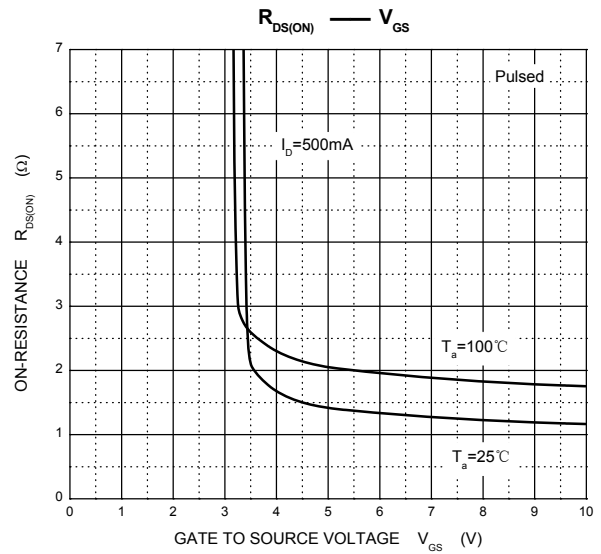
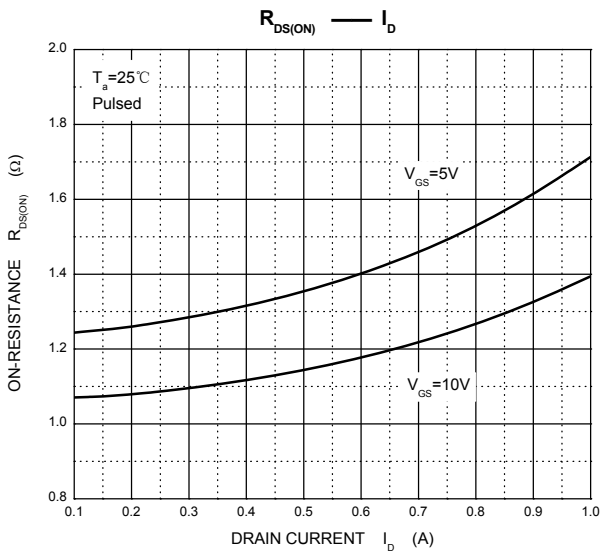
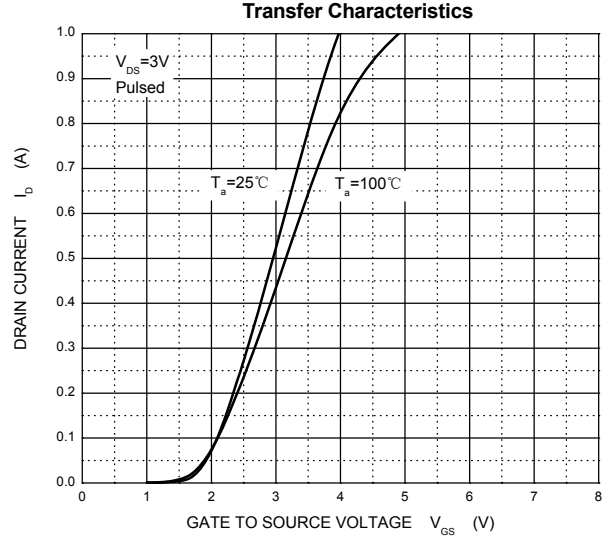
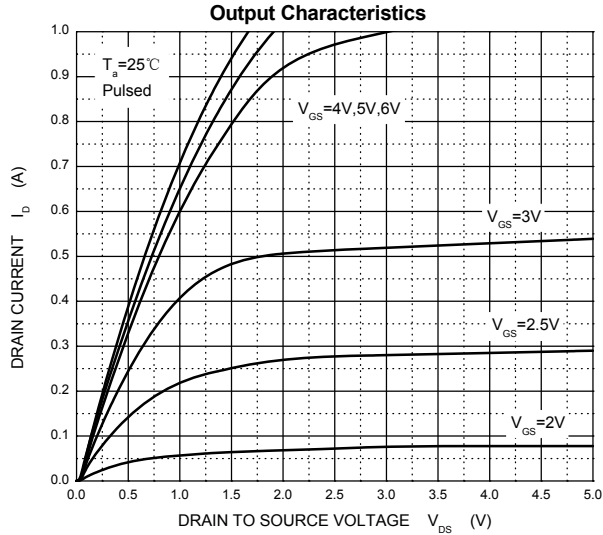
Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	80	V
Gate-Source Voltage	$V_{GS}$	±20	
Continuous Drain Current	$I_D$	115	mA
Maximum Power Dissipation	$P_D$	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	

### Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise specified)

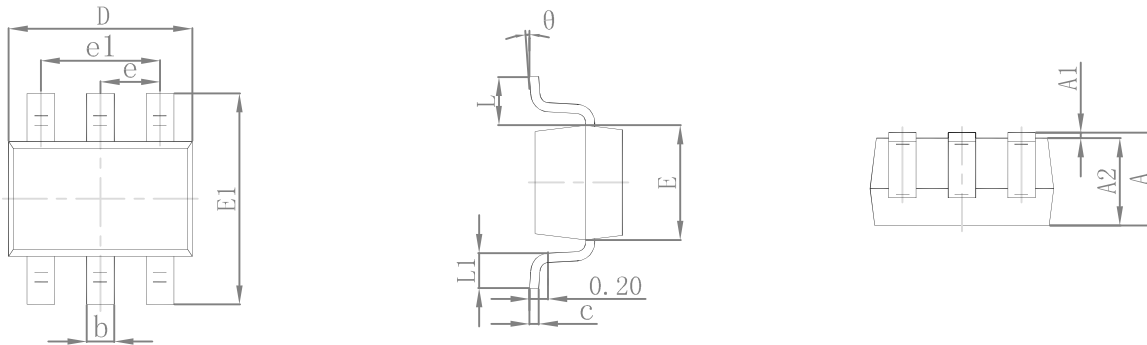
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=250\ \mu\text{A}$	60	---	---	V
Gate-Threshold Voltage*	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1	1.6	2.5	
Gate-Body Leakage	$I_{GSS}$	$V_{DS}=0\text{ V}, V_{GS}=\pm 20\text{ V}$	---	---	$\pm 80$	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	
<b>Switching Time</b>						
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  $\leq 2\%$ .

### Typical Electrical and Thermal Characteristic Curves

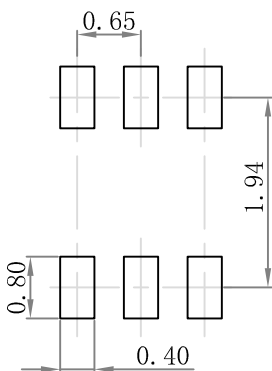


### Package Outline Dimensions SOT-363



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
theta	0°	8°	0°	8°

### Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### Order Information

Device	Package	Marking	Carrier	Quantity	HSF Status
SSF72DW	SOT-363	K72	Tape & Reel	3000pcs / Reel	RoHS compliant