

2N7002KDW

2N7002KDW SOT-363 Plastic-Encapsulate MOSFET

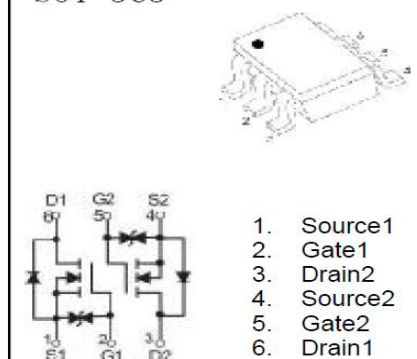
General description

SOT-363 Plastic-Encapsulate MOSFET

FEATURES

- High density cell design for low $R_{DS(ON)}$.
- Voltage controlled small signal switch.
- Rugged and reliable.
- High saturation current capability.
- ESD protected
- Load Switch for Portable Devices.
- DC/DC Converter.
- SOT-363 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

SOT-363



DEVICE MARKING: 72K or K72*

Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	340	mA
Power Dissipation	P_D	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	833	°C/W

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

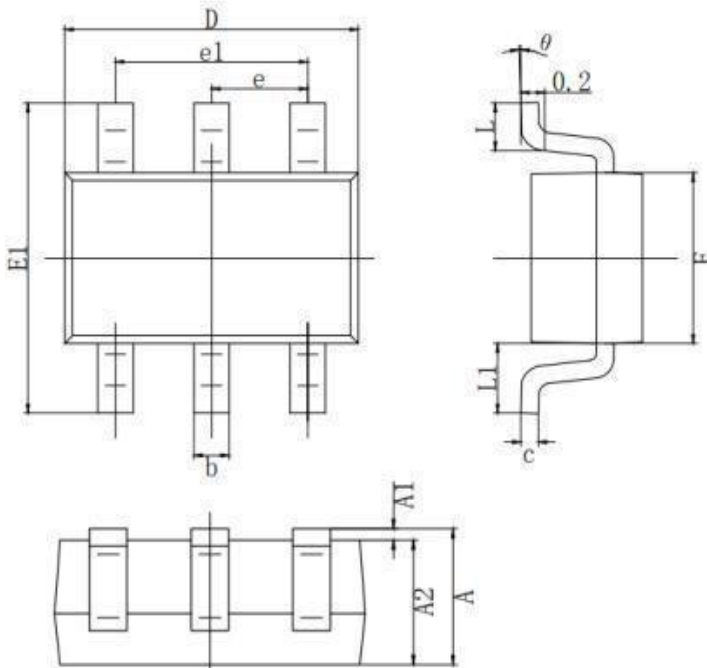
Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS}=0V, I_D=250\mu A$	60			V
Gate-Threshold voltage*	V_{th(GS)}	$V_{DS}=V_{GS}, I_D=1mA$	1	1.3	2.5	V
Gate-body Leakage	I_{GSS1}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
Zero Gate Voltage Drain current	I_{DSS}	$V_{DS}=48V, V_{GS}=0V$			1	μA
Drain-Source On-Resistance*	R_{DS(ON)}	$V_{GS}=10V, I_D=500mA$		0.9	5	Ω
		$V_{GS}=4.5V, I_C=200mA$		1.1	5.3	
Diode Forward voltage	V_{SD}	$I_S=300mA, V_{GS}=0V$			1.50	V
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	
SWITCHING TIME						
Turn-on Time**	td(on)	$V_{DD}=50V, R_L=250\Omega, V_{GS}=10V, R_{GS}=50\Omega, R_G=50\Omega$			10	ns
Turn-off Time**	td(off)				15	
Reverse recovery Time	trr	$V_{GS}=0V, I_S=300mA, V_R=25V, Dis/dt=-100a/uS$		30		ns
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	$I_{GS}=\pm 1mA$ (Open Drain)	± 21.5		± 30	V

* Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

** These parameters have on way to verify.

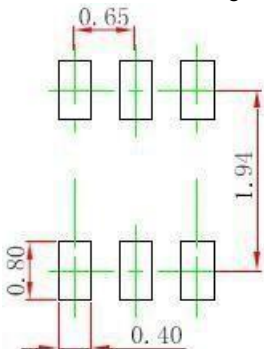
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SOT-363 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	MILLIMETER	
	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
theta	0°	8°

Precautions: PCB Design (Recommended land dimensions for SOT-363 diode. Electrode patterns for PCBs)



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

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