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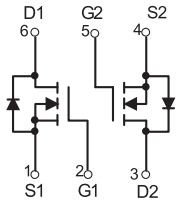
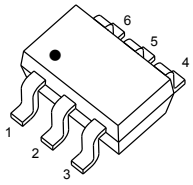
2N7002DW **Plastic-Encapsulate MOSFETs**





SOT-363

Dual N-channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
60 V	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 : K72

MAXIMUM RATINGS (T_a=25℃ 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	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

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MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

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

SWITCHING TIME

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

* Pulse Test: Pulse width ≤300μs,duty cycle≤2%.

** These parameters have no way to verify.

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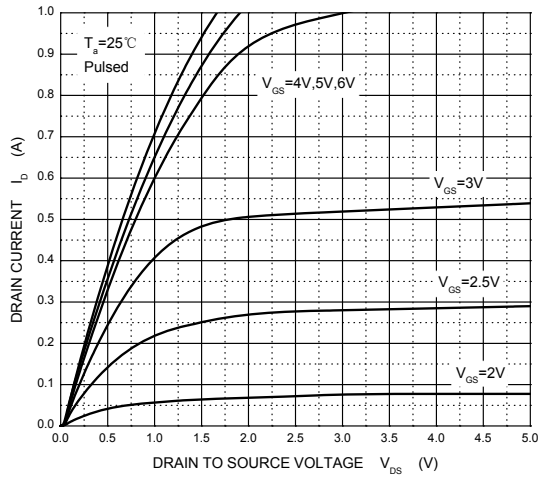
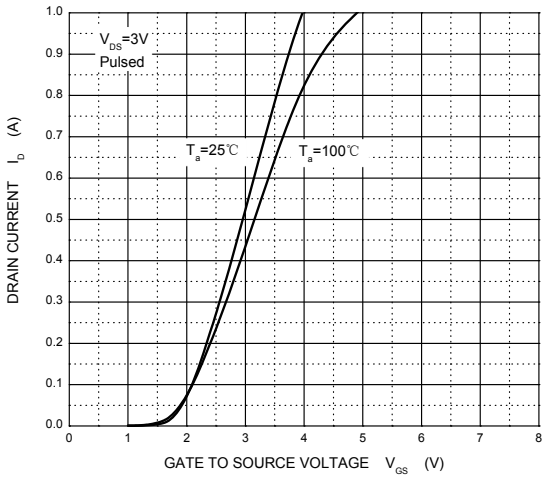
Typical Characteristics

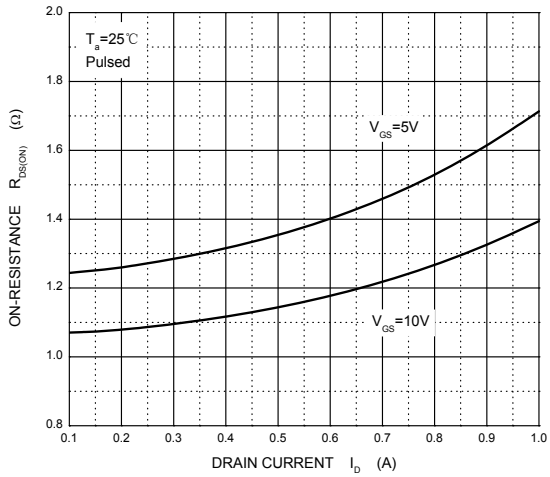
Output Characteristics



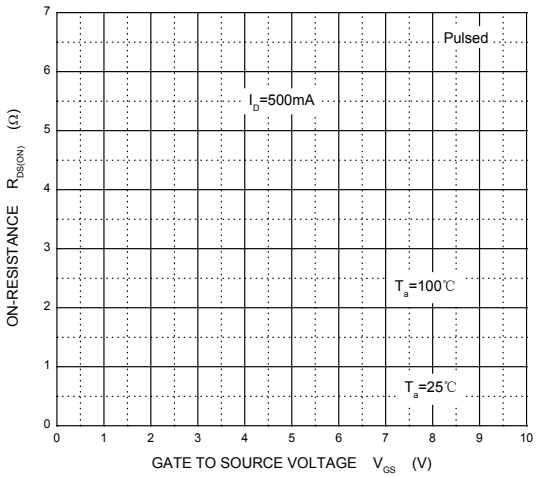
Transfer Characteristics



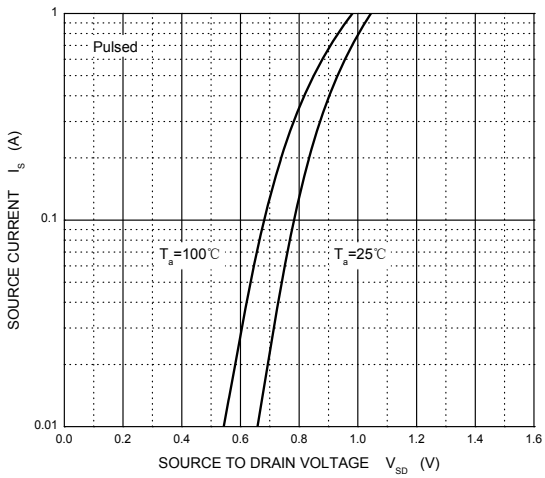
$R_{DS(ON)}$ —— I_D



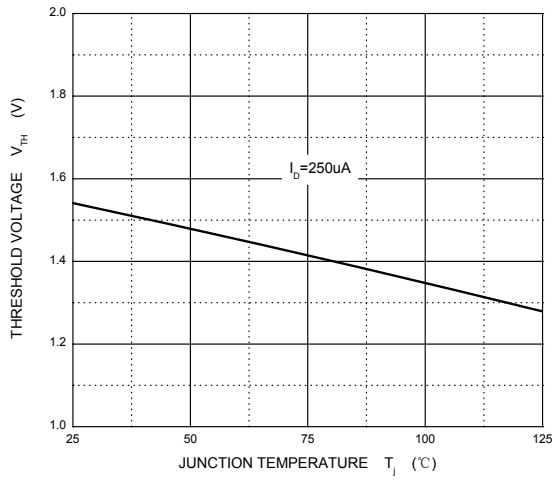
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage



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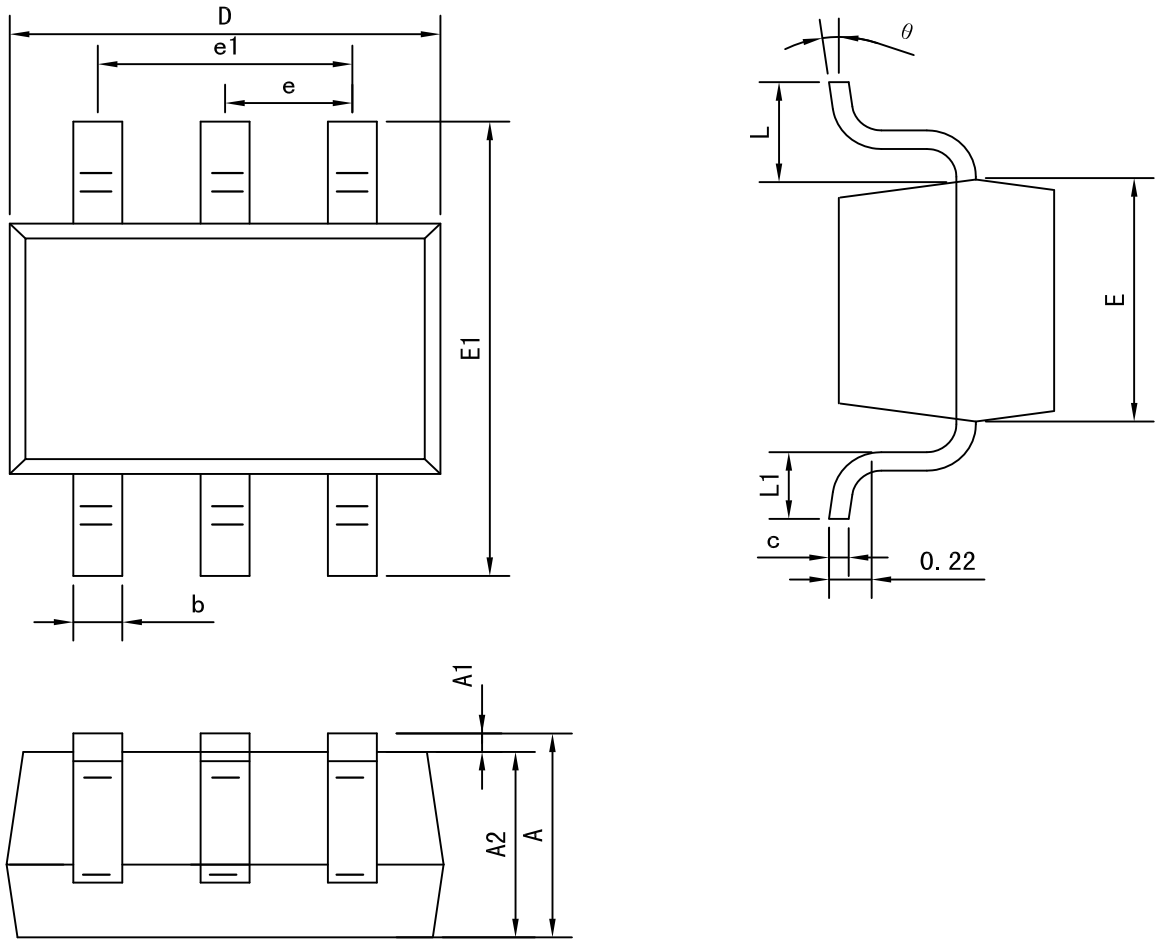
SOT-363 Package outline dimensions



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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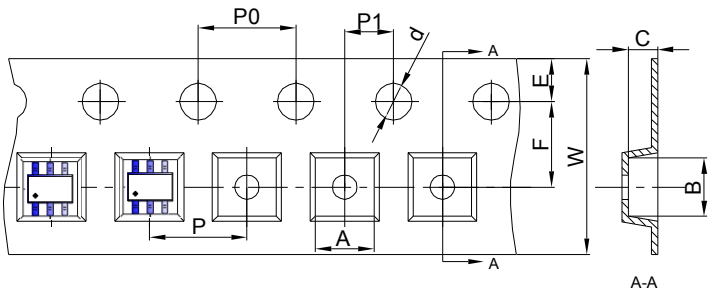
SOT-363 Embossed Carrier Tape



Packaging Description:

SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-363 Tape Leader and Trailer