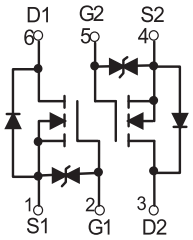
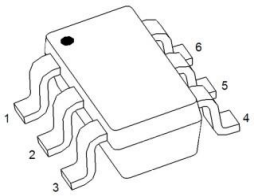
迈拓电子
MAITUO ELECTRONIC

BSS138KDW 50V Dual N-Channel MOSFET



Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
50V	3.5Ω@10V	220mA
	6.0Ω@4.5V	



SOT-363

Feature

- High density cell design for extremely low $R_{DS(on)}$
- Rugged and Relaible

Application

- Direct Logic-Level Interface: TTL/CMOS
- Battery Operated Systems
- Solid-State Relays

MARKING:SS

ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	0.22	A
Power Dissipation	P_D	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

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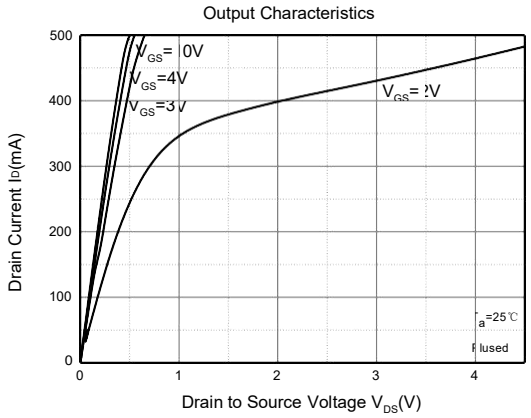
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

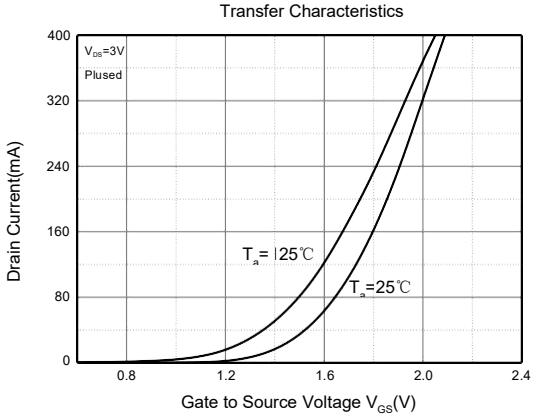
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =50V,V_{GS} = 0V			0.5	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±5.0	uA
Gate threshold voltage[1]	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =1mA	0.8	1.2	1.5	V
Drain-source on-resistance[1]	$R_{DS(on)}$	V_{GS} =10V, I_D =220mA		1.0	3.5	Ω
		V_{GS} =4.5V, I_D =220mA		1.1	6.0	
Forward tranconductance[1]	g_{FS}	V_{DS} =10V, I_D =220mA		0.15		S
Dynamic characteristics[2]						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		26.5		pF
Output Capacitance	C_{oss}			12.9		
Reverse Transfer Capacitance	C_{rss}			5.9		
Switching Characteristics[1,2]						
Turn-on delay time	$t_{d(on)}$	V_{DD}=30V,I_D=290mA, V_{GS}=10V,R_G=6Ω			5	nS
Turn-on rise time	t_r				18	
Turn-off delay time	$t_{d(off)}$				36	
Turn-off fall time	t_f				14	
Source-Drain Diode characteristics[1]						
Diode Forward voltage	V_{DS}	I_S=440mA, V_{GS} = 0V			1.4	V

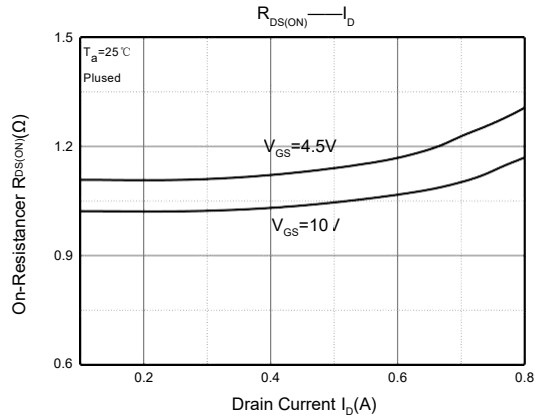
Notes:

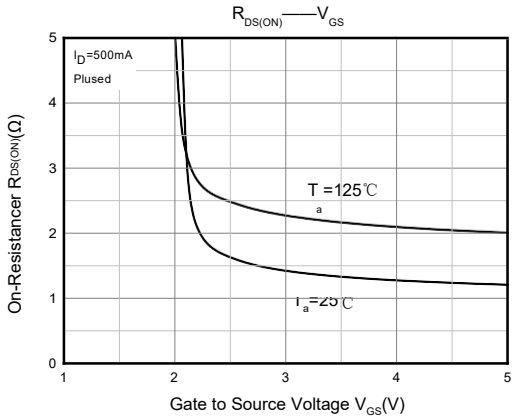
1. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
2. These parameters have no way to verify.

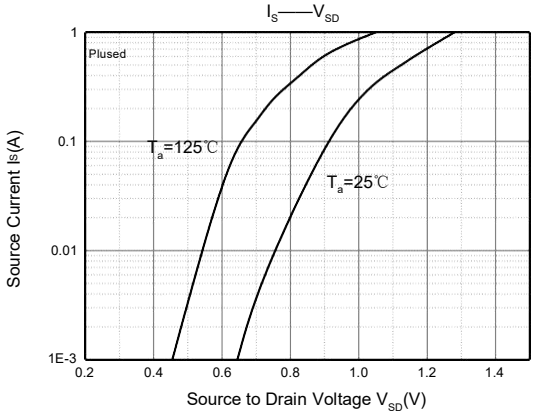
Typical Electrical and Thermal Characteristics

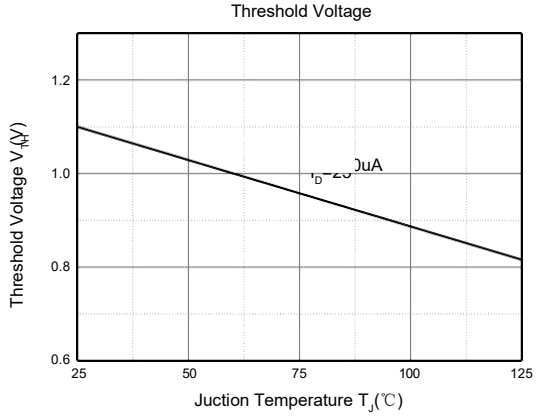












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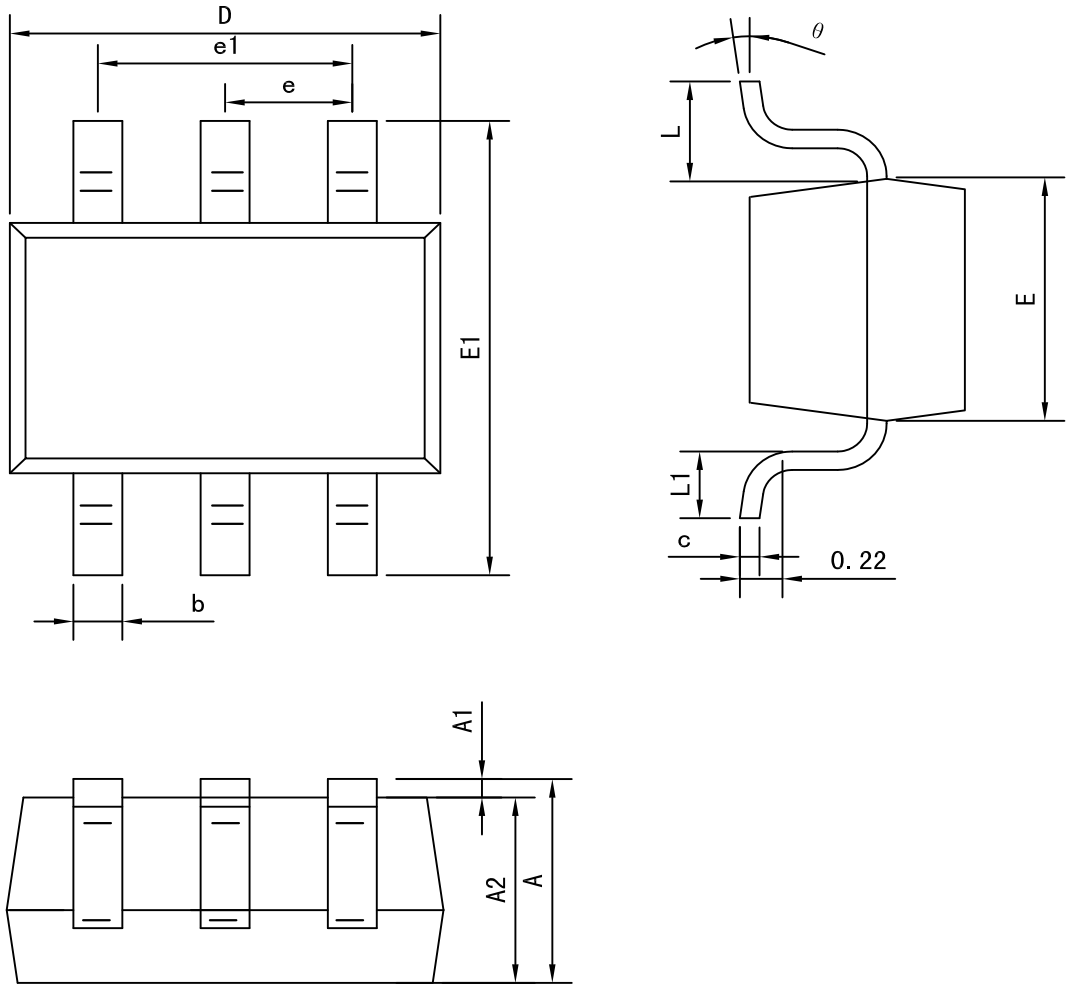
SOT-363 Package outline dimensions



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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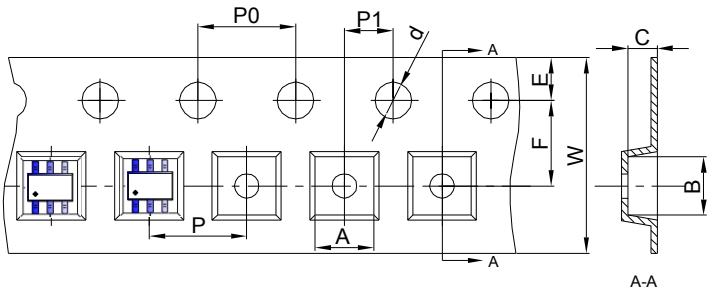
SOT-363 Embossed Carrier Tape



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