

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	280mΩ@4.5V	0.75A
	380mΩ@2.5V	

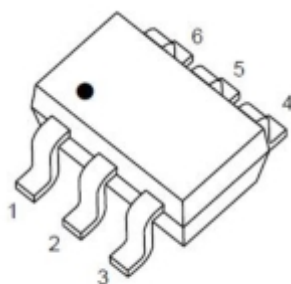
Feature

- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected: 2KV

Applications

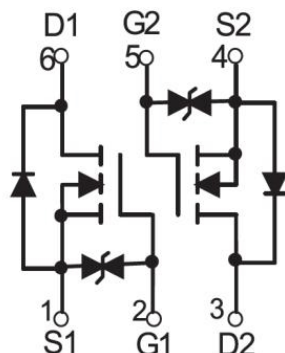
- Load/Power Switching
- Motor Control
- Power Management
- DC-DC Converters

Package



SOT-363

Circuit diagram



Marking



3002 =Device Code

Absolute maximum ratings

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

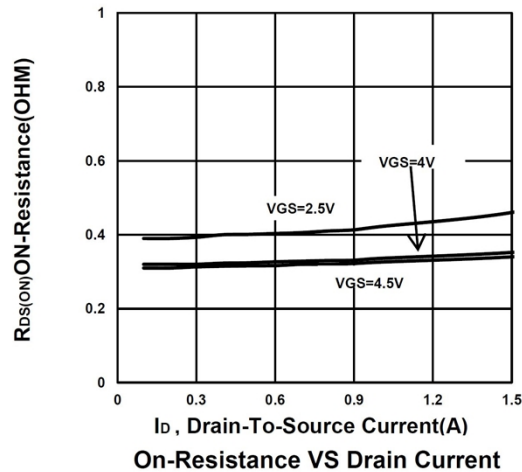
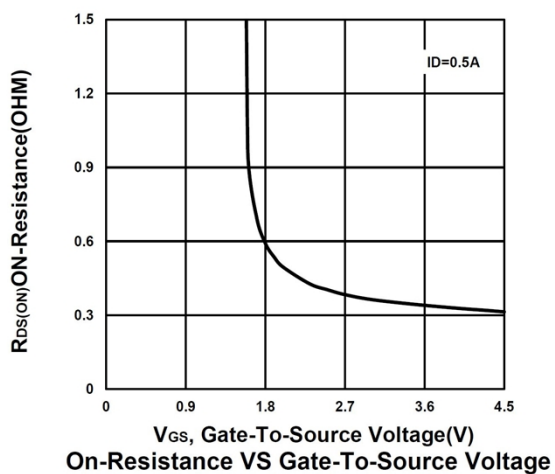
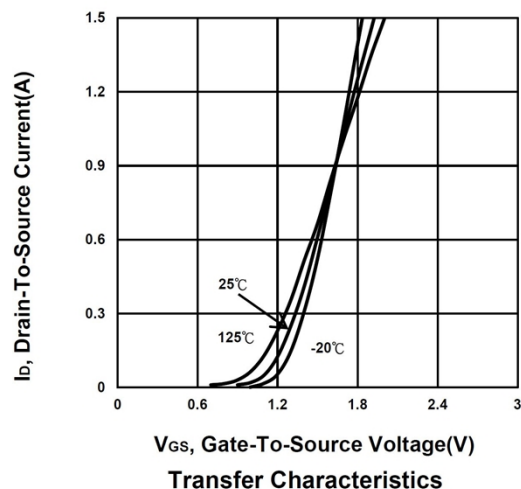
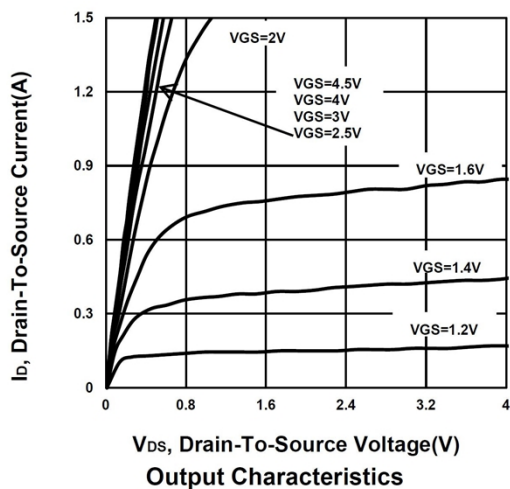
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current	I_{DM}	3	A
Power Dissipation	P_D	0.29	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	431	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electrical characteristics

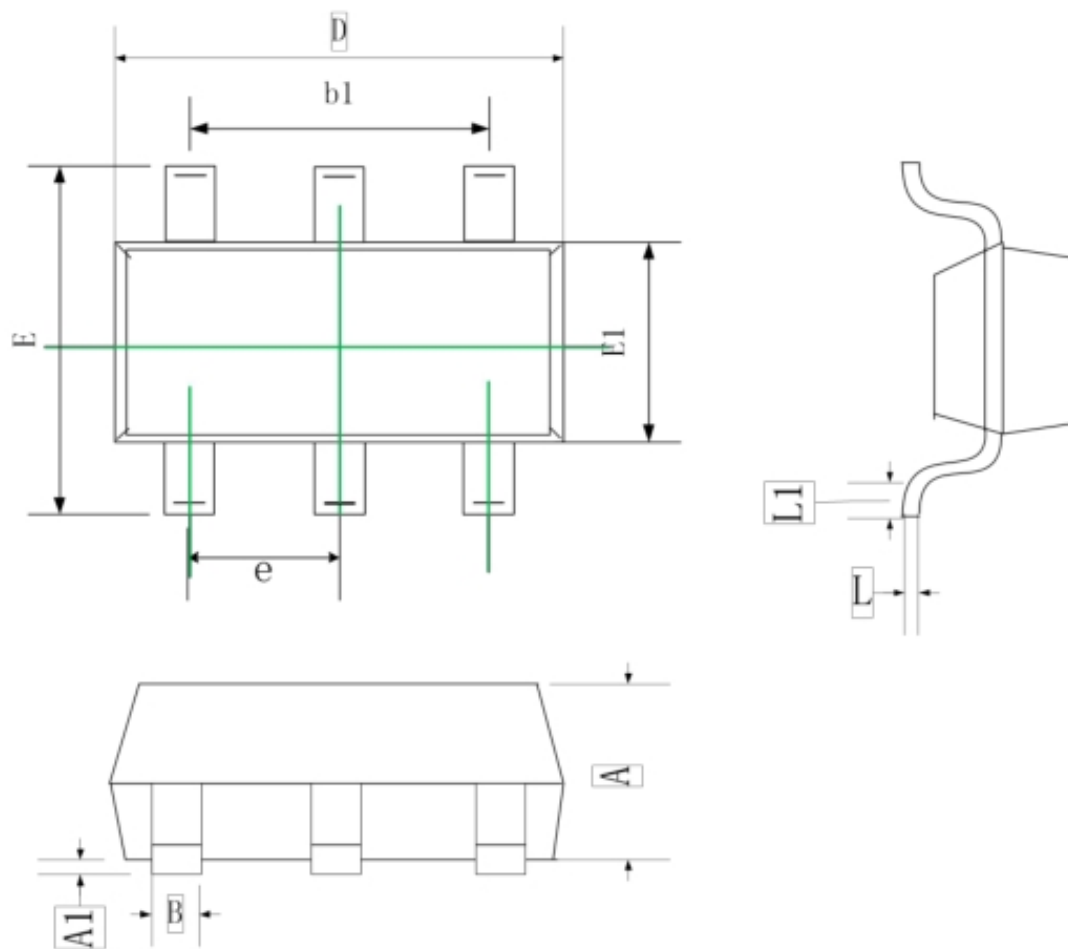
(T_A=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =24V, V _{GS} = 0V			1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±10	uA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.6	1.0	1.3	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =0.5A		0.28	0.40	Ω
		V _{GS} =2.5V, I _D =0.3A		0.38	0.55	
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz		50		pF
Output capacitance	C _{Oss}			16		
Reverse transfer capacitance	C _{rss}			9		
Switching Characteristics						
Total gate charge	Q _g	V _{GS} =4.5V,V _{DS} =15V, I _D =1A		1		nC
Gate-source charge	Q _{gs}			0.26		
Gate-drain charge	Q _{gd}			0.23		
Turn-on Delay Time	T _{d(on)}	V _{GS} =4.5V, V _{DS} =15V, I _D =500mA, R _{GEN} =6Ω		17		nS
Turn-on Rise Time	T _r			32		
Turn-Off Delay Time	T _{d(off)}			92		
Turn-Off Fall Time	t _f			46		
Source-Drain Diode characteristics						
Body Diode Voltage	V _{SD}	I _S =0.5A, V _{GS} = 0V			1.2	V

Typical Characteristics



SOT-363 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.00
A1	0.00	0.10
B	0.10	0.30
b1	1.30	
D	1.80	2.20
E	2.00	2.20
E1	1.15	1.35
e	0.65 TYP.	
L	0.10	0.25
L1	0.15	0.4