

## Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	1.1 $\Omega$ @10V	340mA
	1.4 $\Omega$ @4.5V	

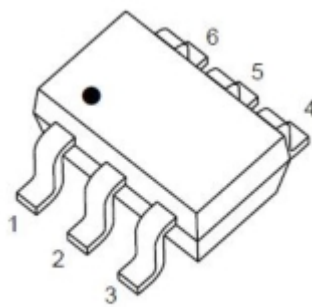
## Feature

- High density cell design for Low  $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected: 2KV

## Application

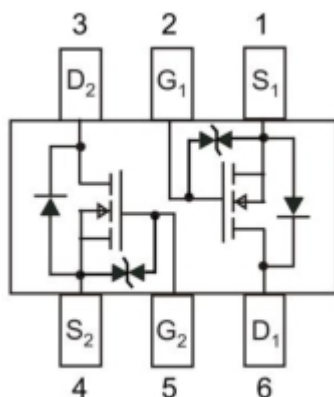
- DC/DC Converter
- Load Switch for Portable Devices

## Package



**SOT-363**

## Circuit diagram



## Marking



## Absolute maximum ratings

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D$	340	mA
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~ +150	$^\circ\text{C}$

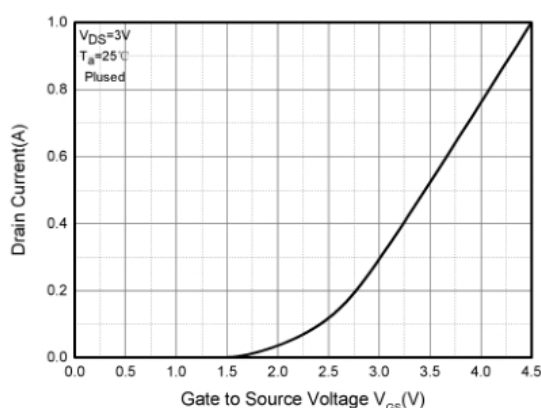
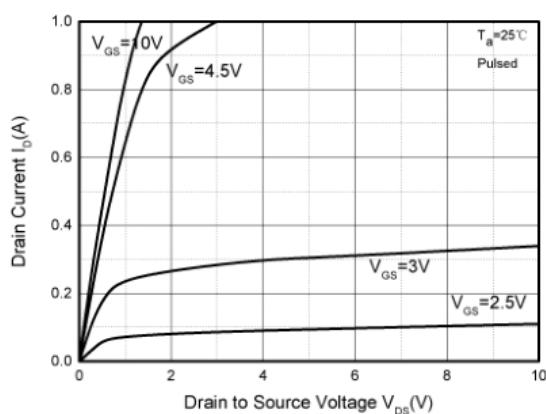
## Electrical characteristics

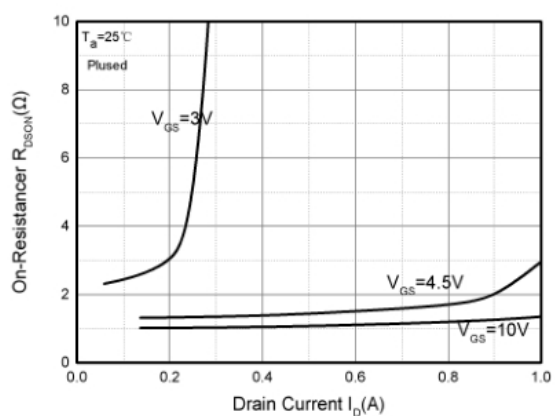
( $T_A=25^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	60			V

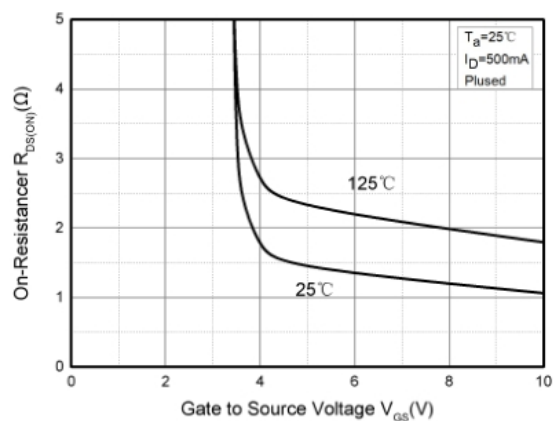
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.5	2.5	V
Gate-body leakage current	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 20V$			$\pm 10$	$\mu A$
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$			1	$\mu A$
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 500mA$		1.1	3	$\Omega$
		$V_{GS} = 4.5V, I_D = 200mA$		1.4	4	
Dynamic characteristics						
Total Gate Charge	$Q_g$	$V_{DS} = 10V, V_{GS} = 4.5V,$ $I_D = 250mA$		0.3		nC
Gate-Source Charge	$Q_{gs}$			0.2		
Gate-Drain Charge	$Q_{gd}$			0.08		
Input Capacitance	$C_{iss}$	$V_{DS} = 25V, V_{GS} = 0V,$ $f = 1MHz$		30	50	pF
Output Capacitance	$C_{oss}$			4.2	25	
Reverse Transfer Capacitance	$C_{rss}$			2.9	5	
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 30V, I_D = 200mA,$ $V_{GEN} = 10V, R_G = 25\Omega$		3.9		ns
Turn-On Rise Time	$t_R$			3.4		
Turn-Off Delay Time	$t_{d(off)}$			15.7		
Turn-Off Fall Time	$t_F$			9.9		
Source-Drain Diode Characteristics						
Diode Forward voltage	$V_{SD}$	$V_{GS} = 0V, I_S = 200mA$			1.2	V

## Typical Characteristics

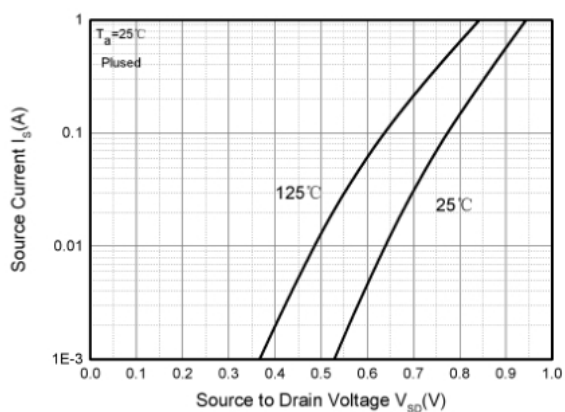




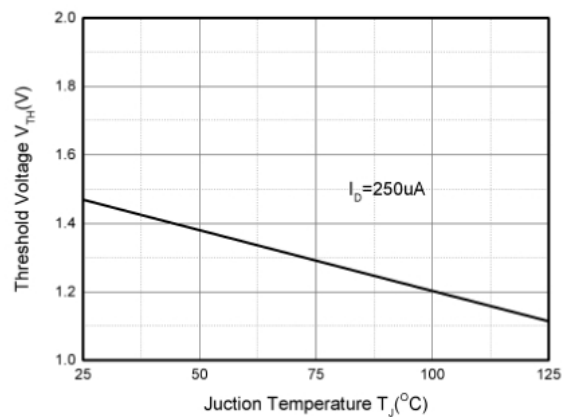
On-Resistance vs. Drain current



On-Resistance vs. Gate to Source Voltage

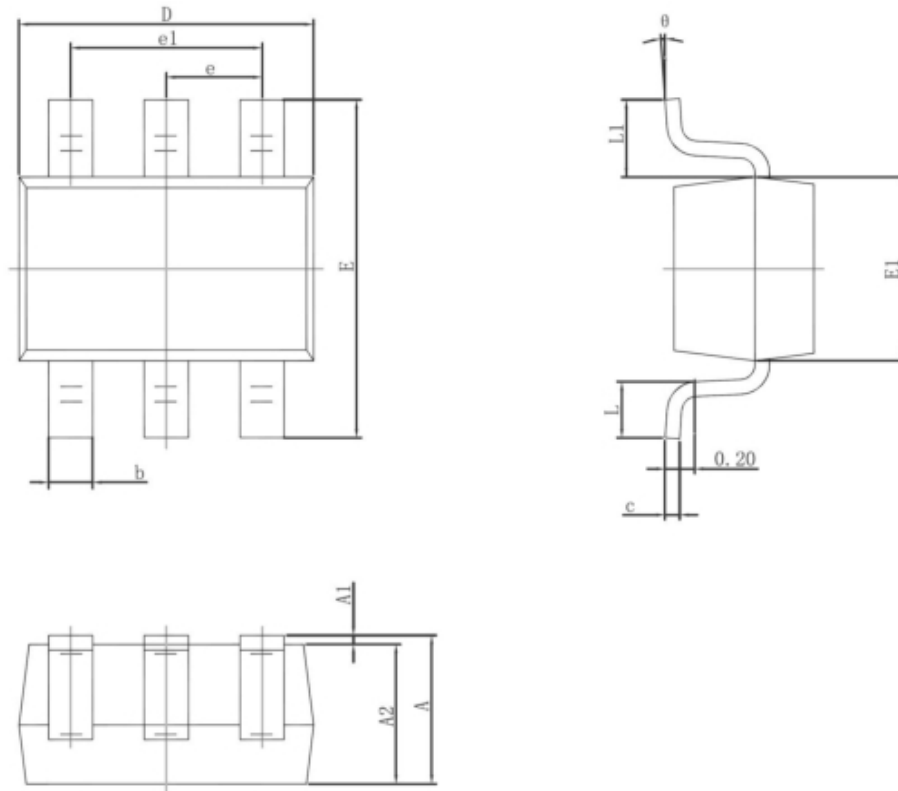


Source Current vs. Source to Drain Voltage



Threshold voltage vs. Junction temperature

## SOT-363 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.10
A1	0.00	0.10
A2	0.90	1.00
b	0.15	0.35
c	0.10	0.15
D	2.00	2.20
E1	1.15	1.35
E	2.15	2.40
e	0.65 TYP.	
e1	1.20	1.40
L	0.26	0.46