Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
25V	250mΩ@4.5V	0.75A
	350mΩ@2.5V	

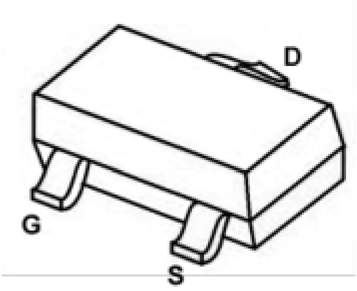
Feature

- Surface Mount Package
- N-Channel Switch with Low RDS(on)
- Operated at Low Logic Level Gate Drive
- ESD Protected: 2kV

Applications

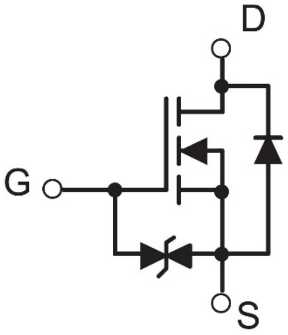
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package

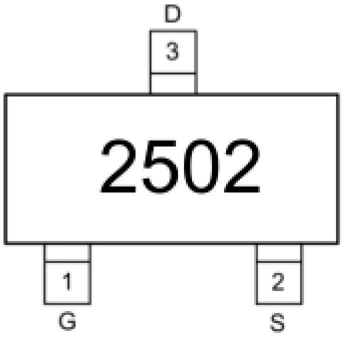


SOT-23

Circuit diagram



Marking



2502 =Device Code

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

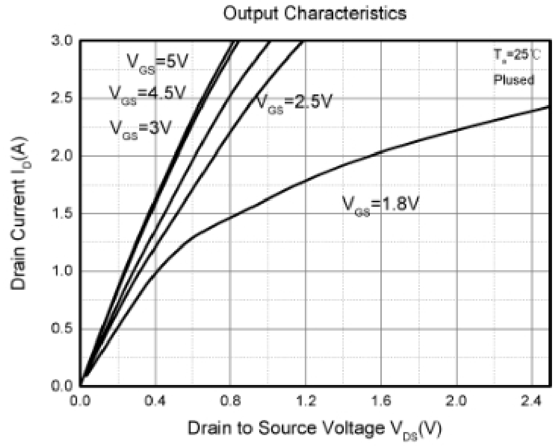
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current	I_{DM}	3	A
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

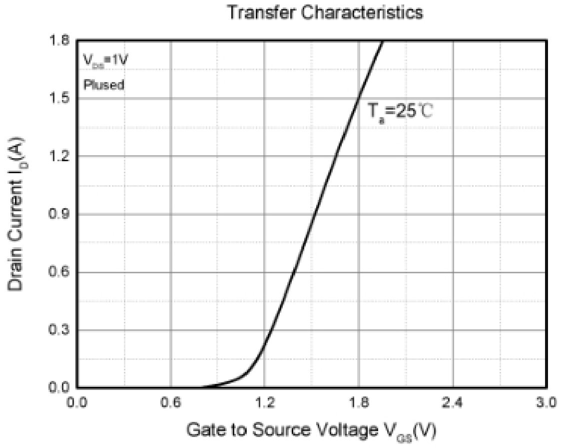
Electrical characteristics

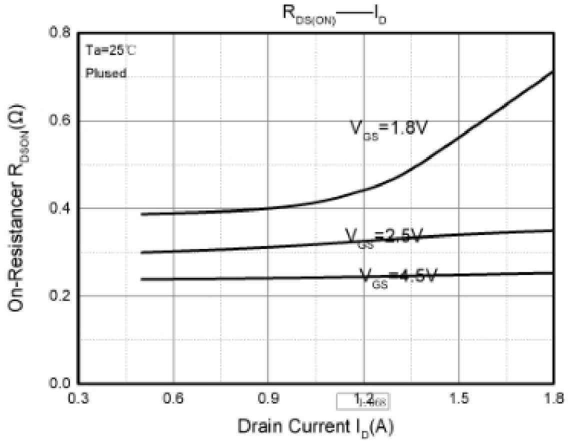
(T_A=25℃, unless otherwise noted)

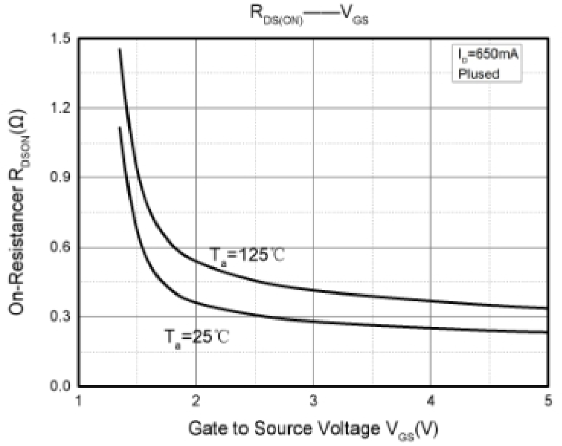
Parameter	**Symbol**	**Test Condition**	**Min.**	**Typ.**	**Max.**	**Unit**
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250µA	25			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V, V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±10	uA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250µA	0.3	0.65	1	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =4.5V, I_D =0.5A		0.25	0.38	mΩ
		V_{GS} =2.5V, I_D =0.2A		0.35	0.45	
Dynamic Characteristics$^{4)}$						
Input capacitance	C_{iss}	V_{DS}=16V, V_{GS}=0V, f=1MHz		79	120	pF
Output capacitance	C_{oss}			13	20	
Reverse transfer capacitance	C_{rss}			9	15	
Switching Characteristics$^{4)}$						
Turn-on Delay Time	$T_{d(on)}$	V_{GS}=4.5V, V_{DS}=10V, I_D=500mA, R_{GEN} =10Ω		6.7		nS
Turn-on Rise Time	T_r			4.8		
Turn-Off Delay Time	$T_{d(off)}$			17.3		
Turn-Off Fall Time	t_f			7.4		
Source-Drain Diode Characteristics$^{4)}$						
Body diode voltage	V_{SD}	I_S=0.5A, V_{GS}=0V		0.7	1.3	V

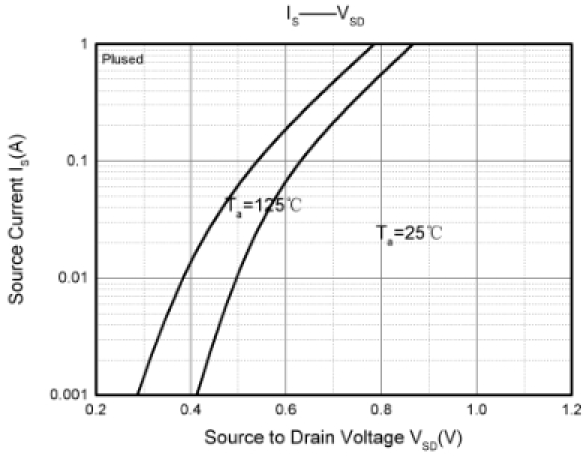
Typical Characteristics

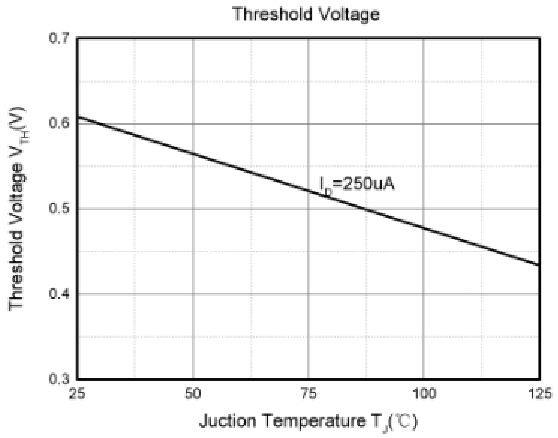

Output Characteristics


Transfer Characteristics

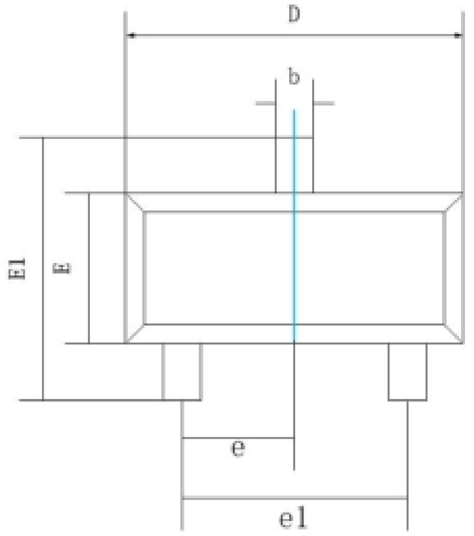

$R_{DS(ON)}$——I_D

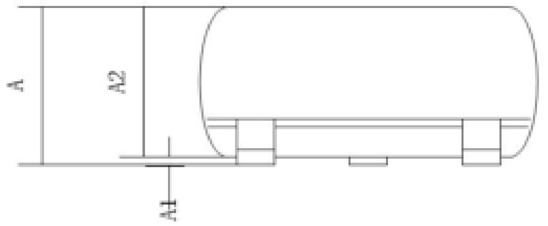

$R_{DS(ON)}$——V_{GS}

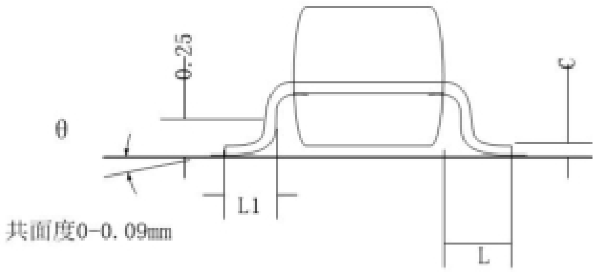

I_S——V_{SD}


Threshold Voltage

SOT-23 Package Information







Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°