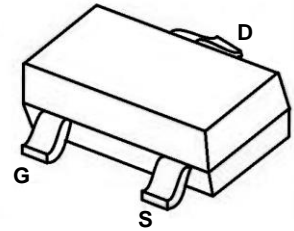


Product Summary

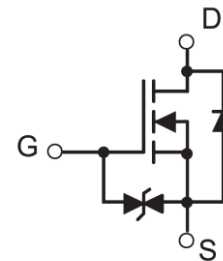
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	$2\Omega@10V$	0.22A
	$2.5\Omega@4.5V$	



SOT-23

Feature

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



Application

- Direct Logic-Level Interface: TTL/CMOS
- Drivers: Relays, Solenoids, Lamps, Hammers, Display, Memories, Transistors, etc.
- Battery Operated Systems
- Solid-State Relays

Absolute maximum ratings (Ta=25°C unless otherwise noted)

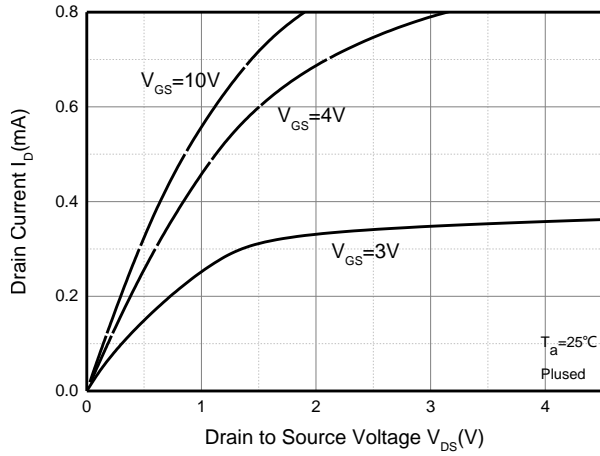
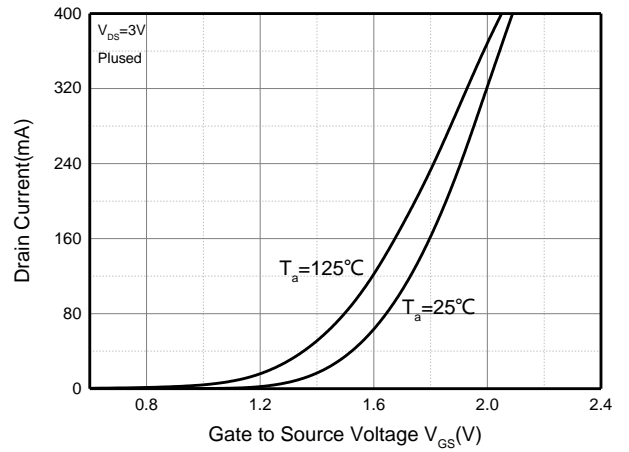
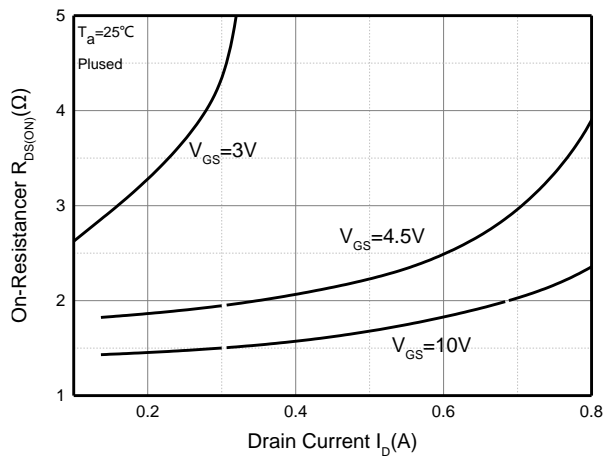
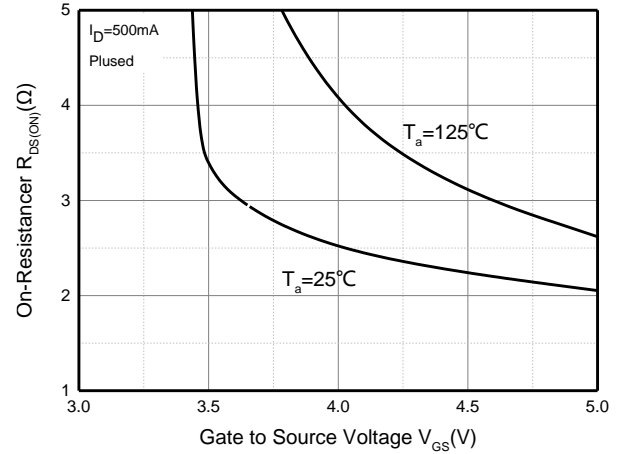
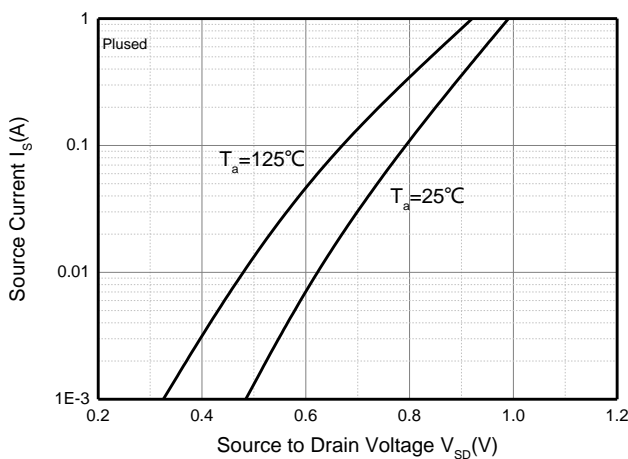
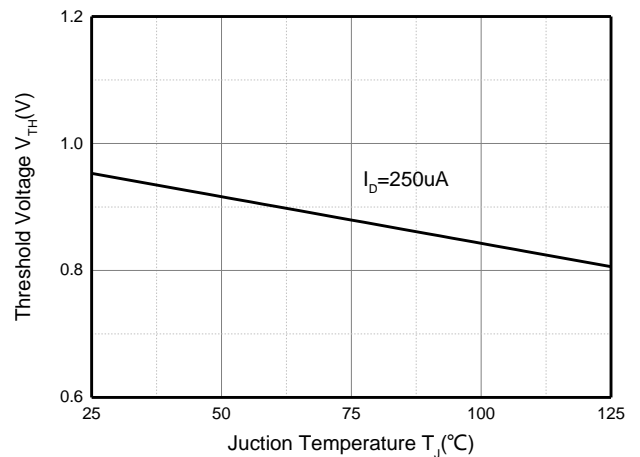
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	0.22	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	125	°C
Storage Temperature	T_{STG}	-55~ +150	°C

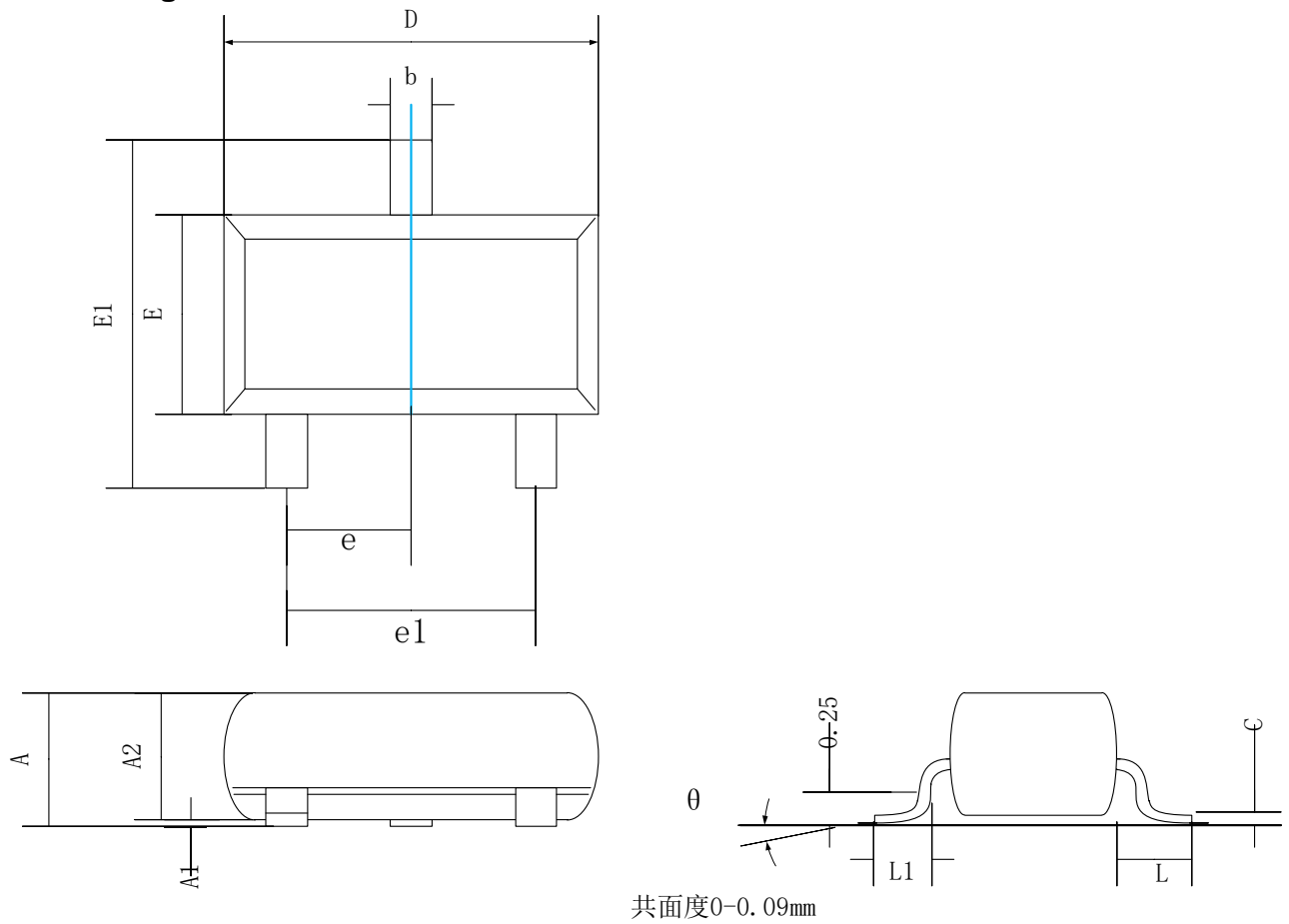
Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 48V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			±5	μA
Gate threshold voltage ¹⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.7	1	1.45	V
Drain-source on-resistance ¹⁾	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 200mA$		2	5	Ω
		$V_{GS} = 4.5V, I_D = 200mA$		2.5	8	
Dynamic characteristics²⁾						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		27		pF
Output Capacitance	C_{oss}			13		
Reverse Transfer Capacitance	C_{rss}			6		
Switching Characteristics¹⁾²⁾						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 30V, I_D = 0.29A, V_{GS} = 10V, R_G = 6\Omega$			5	nS
Rise time	t_r				18	
Turn-off delay time	$t_{d(off)}$				36	
Fall time	t_f				14	
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	$V_{GS} = 0V, I_S = 500mA$	0.5		1.2	V

Notes:

1) Pulse Test: Pulse Width ≤300μs, Duty Cycle ≤2%.

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°