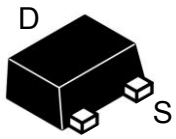
Description

The HRUM002N02T2L uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a Battery protection or in other Switching application.



SOT-723

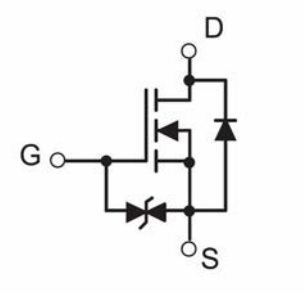
General Features

V_{DS} = 20V I_D =1.2A

$R_{DS(ON)}$ < 260 mΩ@ V_{GS}=4.5V

$R_{DS(ON)}$ < 350 mΩ@ V_{GS}=2.5V

ESD Rating: 1500V HBM



N-Channel MOSFET

Application

Battery protection

Load switch

Uninterruptible power supply

Package Marking and Ordering Information

Product ID	Pack	Brand	Qty(PCS)
HRUM002N02T2L	SOT-723	HXY MOSFET	8000

Absolute maximum ratings (Ta=25℃ unless otherwise noted)

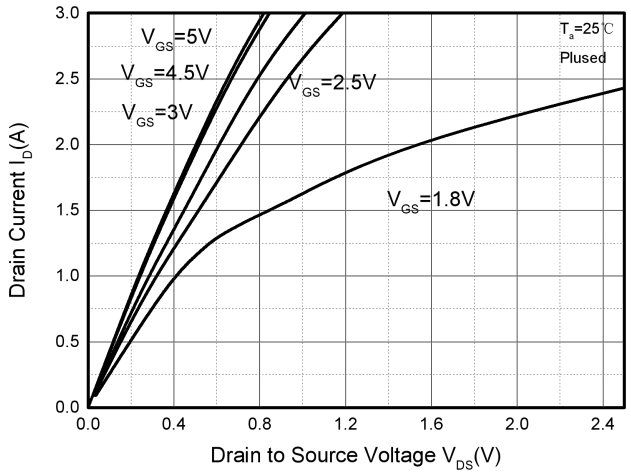
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	1.2	A
Pulsed Drain Current	I_{DM}	1.8	A
Power Dissipation	P_D	0.15	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

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

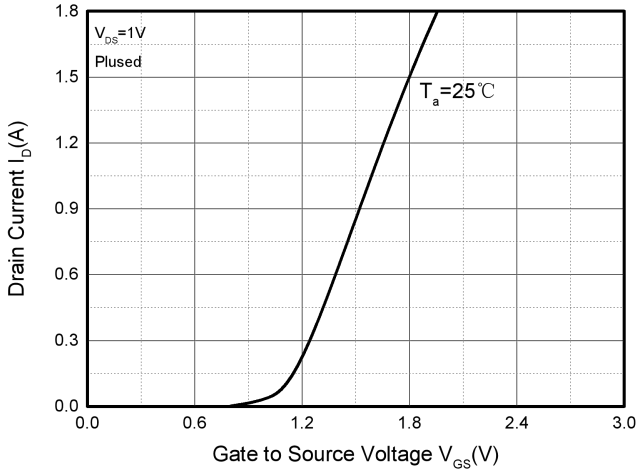
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±10	uA
Gate threshold voltage	$V_{GS(th)}$	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 = 1.2A		150	260	mΩ
		V_{GS} =2.5V, I_D = 0.8A		132	168	
		V_{GS} =1.8V, I_D = 0.3A		165	240	
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	
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		
Body Diode Voltage	V_{SD}	I_S=0.5A, V_{GS} = 0V		0.7	1.3	V

Typical Characteristics

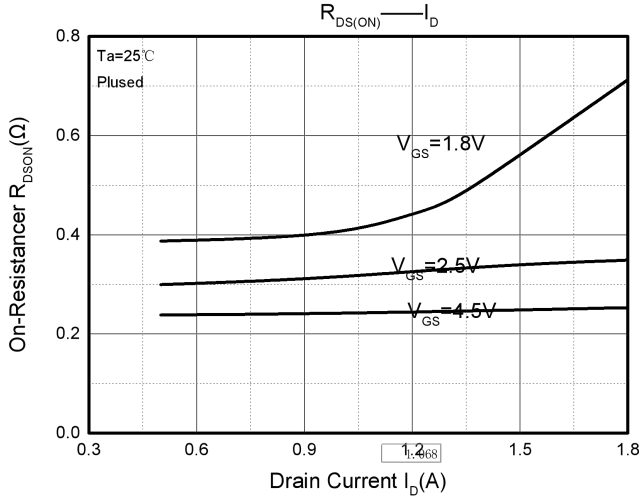
Output Characteristics



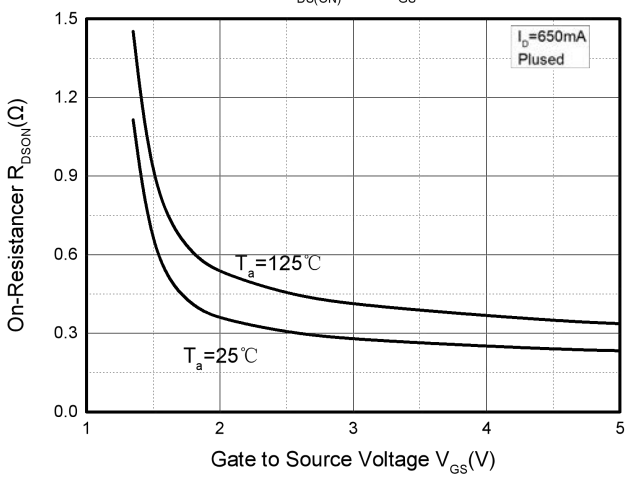
Transfer Characteristics



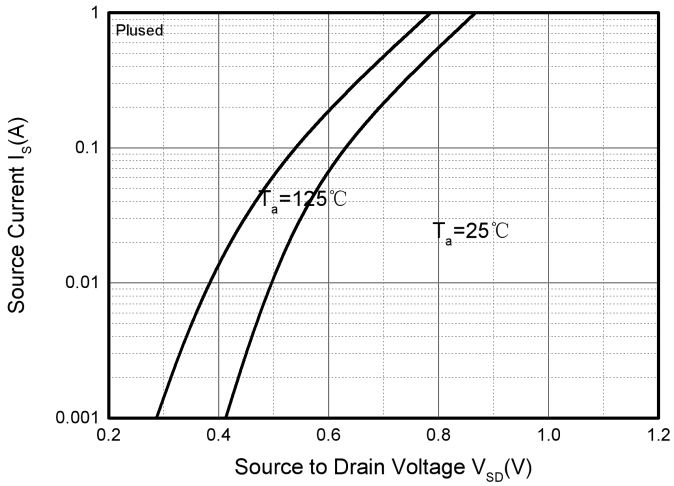
$R_{DS(ON)}$——I_D



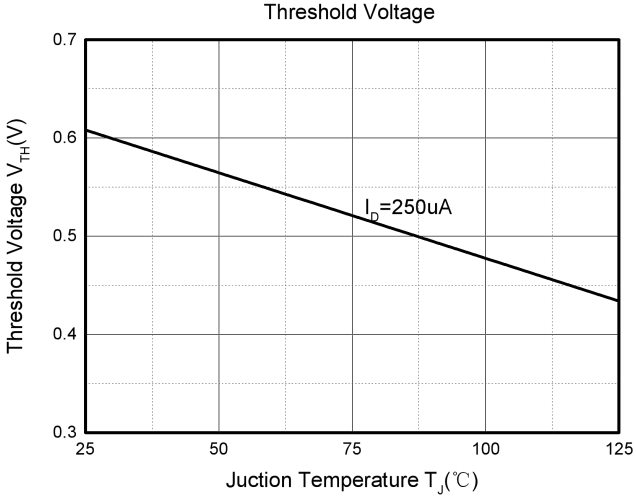
$R_{DS(ON)}$——V_{GS}



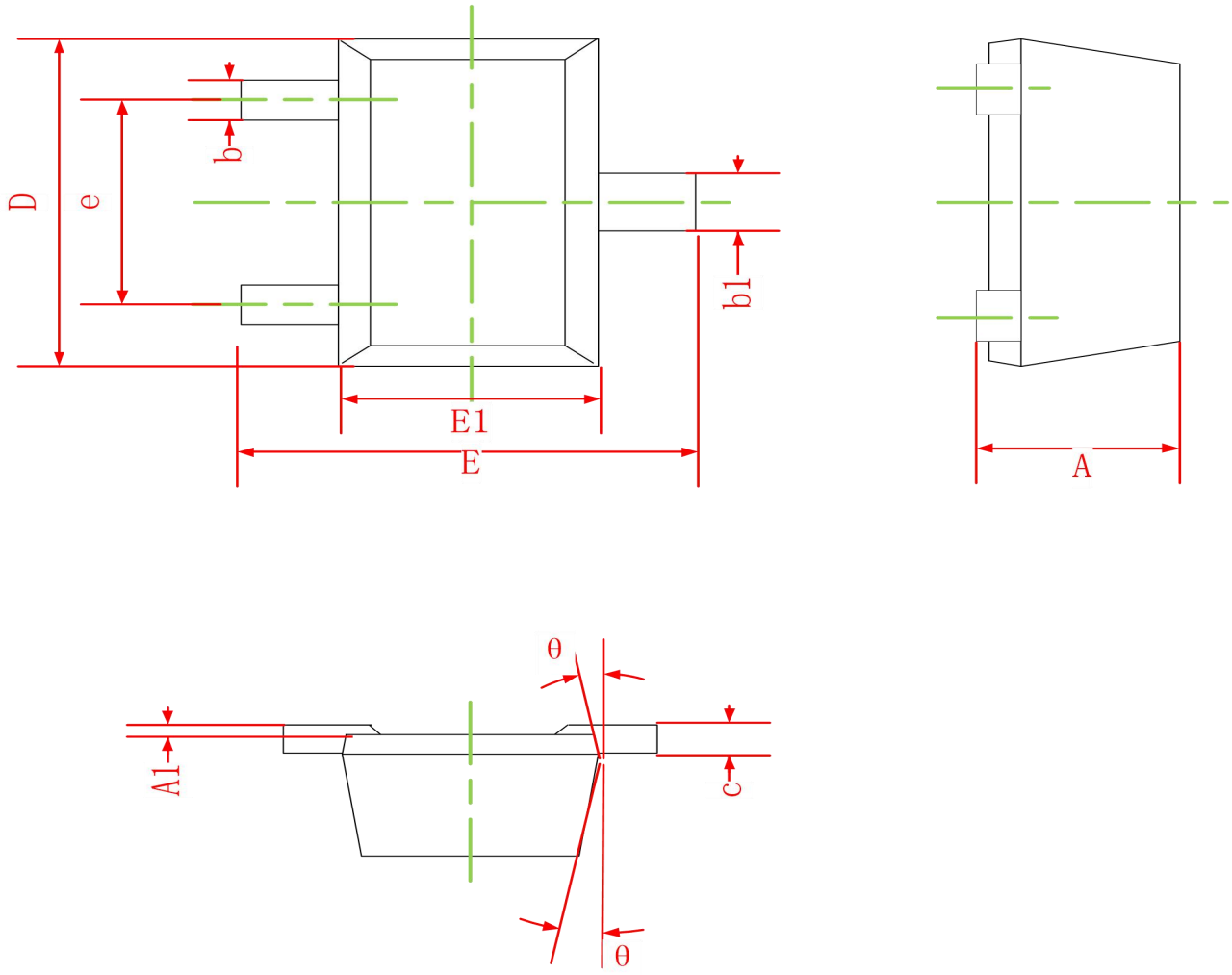
I_S——V_{SD}



Threshold Voltage



SOT-723 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800TYP.	
θ	7° REF.	

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