

Product Summary

BVDSS	RDSON	ID
-20 V	85 mΩ	-1.4A

Application

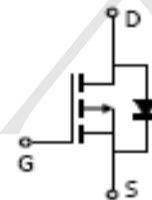
- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Package and Pin Configuration

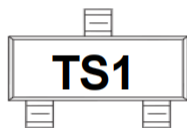
SOT-323



Circuit diagram



Marking:



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

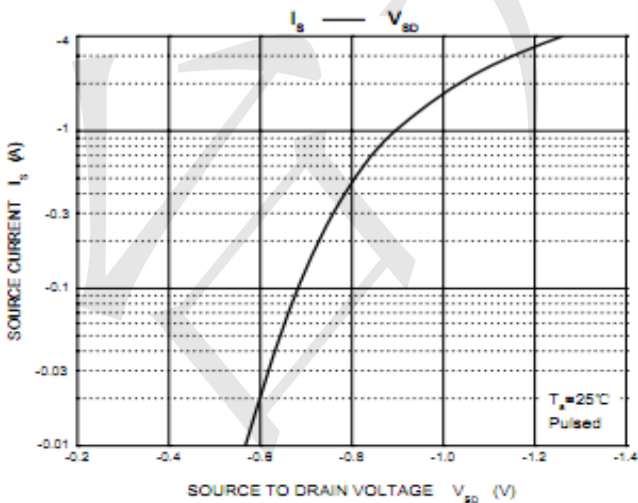
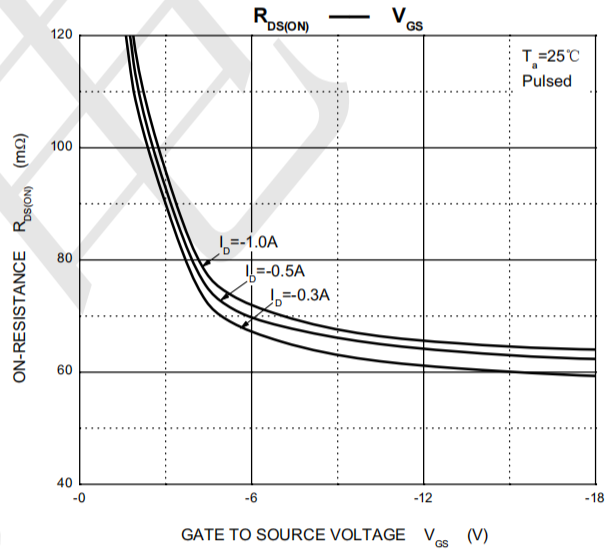
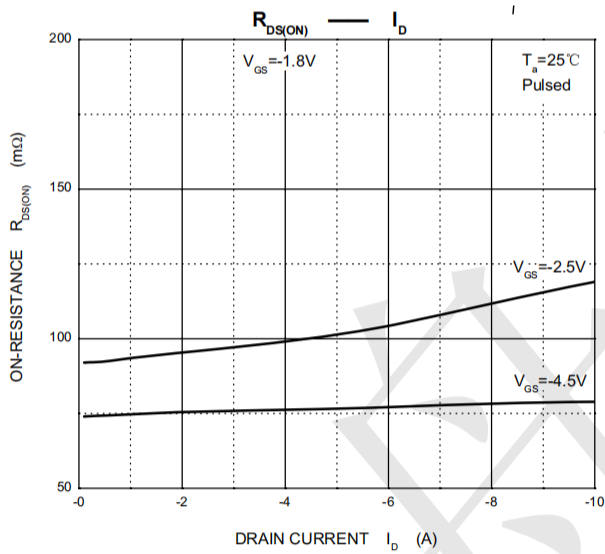
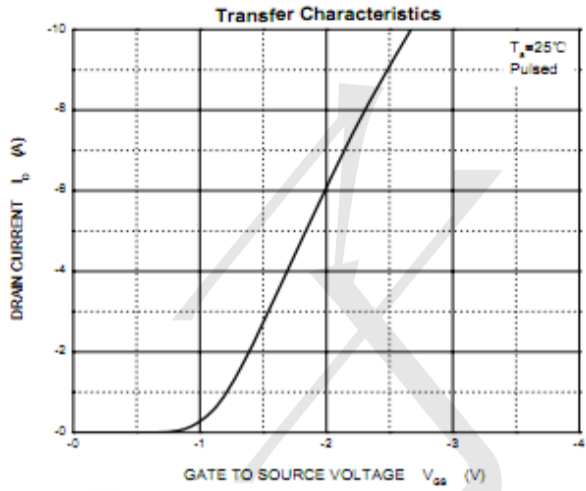
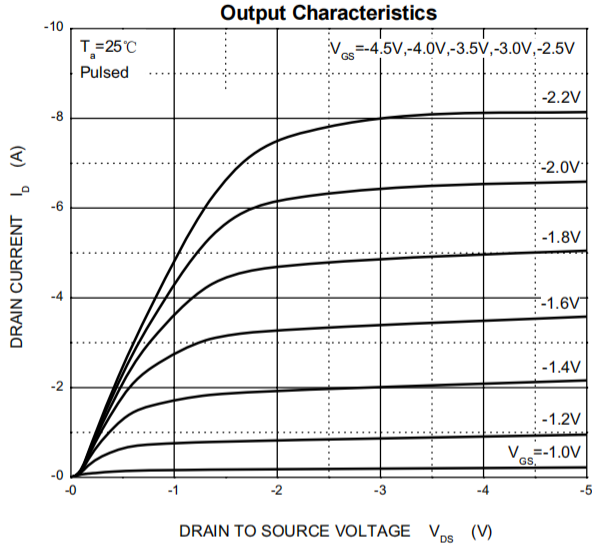
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	- 20	V
Gate-Source Voltage	V_{GS}	± 8.0	
Continuous Drain Current	I_D	-1.4	A
Pulsed Drain Current ($t_p=10\mu\text{s}$)	I_{DM}	-3.0	
Power Dissipation	P_D	0.29	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	431	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-50 ~+150	

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
OFF CHARACTERISSTICS						
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Gate-Source Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1.0	μA
OFF CHARACTERISSTICS (note 1)						
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.45	-0.7		V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -1.0A$		85	110	m Ω
		$V_{GS} = -2.5V, I_D = -0.5A$		100	140	
		$V_{GS} = -1.8V, I_D = -0.3A$			210	
CHARGES AND CAPACITANCES (note 3)						
Input Capacitance	C_{iss}	$V_{DS} = -8.0V, V_{GS} = 0V, f = 1MHz$		640		pF
Output Capacitance	C_{oss}			120		
Reverse Transfer Capacitance	C_{rss}			82		
SWITCHING CHARACTERISSTICS (note 2,3)						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = -4.5V, V_{DD} = -4.0V, I_D = -1.0A, R_G = 6.2\Omega$		6.2		ns
Rise Time	t_r			15		
Turn-Off Delay Time	$t_{d(off)}$			26		
Fall Time	t_f			18		
Drain-source Body diode characteristics						
Forward Diode Voltage	V_{SD}	$V_{GS} = 0V, I_S = -0.3A$		-0.62	-1.2	V

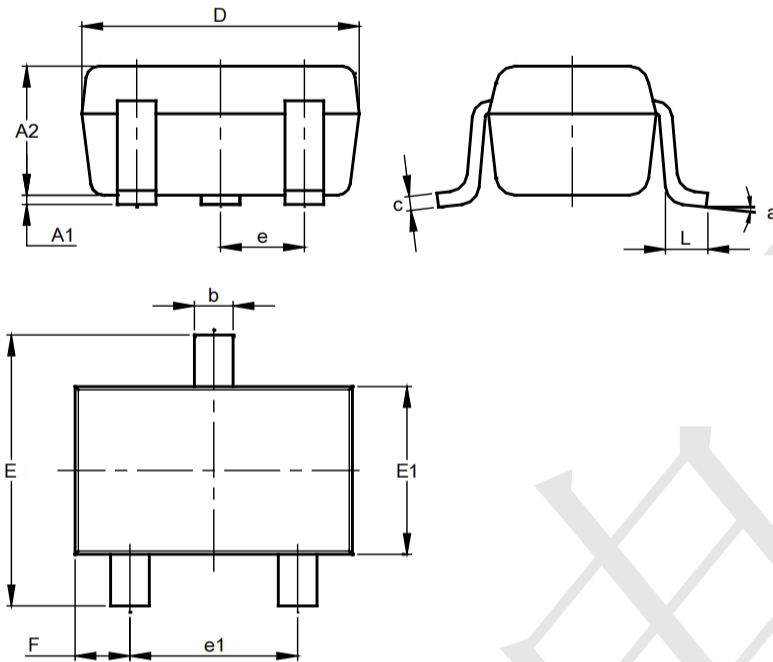


Typical Electrical and Thermal Characteristics



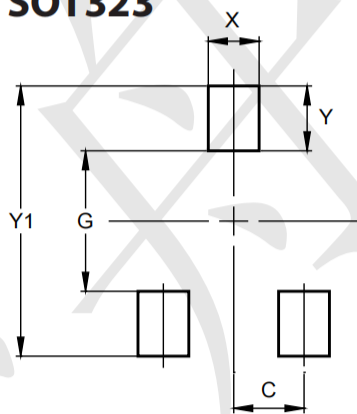


Outline Drawing - SOT323(SC70-3)



SOT323			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.25	0.40	0.30
c	0.10	0.18	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
e1	1.20	1.40	1.30
F	0.375	0.475	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Land Pattern - SOT323



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.470
Y	0.600
Y1	2.500

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