

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-60V	8Ω@-10V	-0.17A
	9.9Ω@-4.5V	

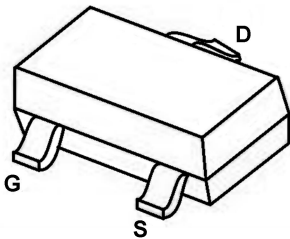
Feature

- Trench Power LV MOSFET technology
- Low RDS(ON)
- Low Gate Charge

Application

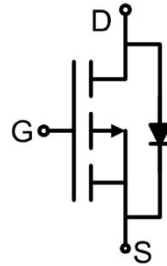
- Video monitor
- Power management

Package

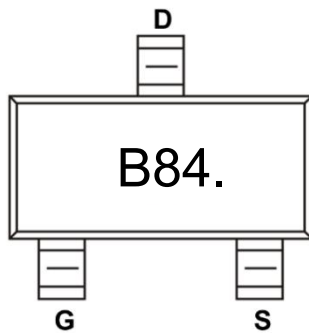


SOT-323

Circuit diagram



Marking



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	-0.17	A
Pulsed Drain Current ¹⁾	I _{DM}	-0.68	A
Power Dissipation	P _D	0.15	W
Thermal Resistance from Junction to Ambient ²⁾	R _{θJA}	833	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Electrical characteristics (T_J=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 = -250μA	-60			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -60V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.9	-1.4	-2.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -0.15A		3.3	8	Ω
		V _{GS} = -4.5V, I _D = -0.15A		3.5	9.9	
Dynamic characteristics³⁾						
Input Capacitance	C _{iss}	V _{DS} = -30V, V _{GS} = 0V, f = 1MHz		43		pF
Output Capacitance	C _{oss}			2.9		
Reverse Transfer Capacitance	C _{rss}			1.8		
Total Gate Charge	Q _g	V _{DS} = -30V, V _{GS} = -10V, I _D = -0.15A		1.77		nC
Gate-Source Charge	Q _{gs}			0.57		
Gate-Drain Charge	Q _{gd}			0.18		
Reverse Recovery Charge	Q _{rr}	I _F = -0.15A, di/dt = 100A/μs		13		
Reverse Recovery Time	t _{rr}			23		
Turn-on delay time	t _{d(on)}	V _{GS} = -4.5V, V _{DD} = -30V, I _D = -0.15A, R _{GEN} = 2.5Ω		8.6		nS
Turn-on rise time	t _r			20		
Turn-off delay time	t _{d(off)}			15		
Turn-off fall time	t _f			77		
Source-Drain Diode characteristics						
Diode Forward Current	I _S				-0.17	A
Diode Forward voltage	V _{SD}	V _{GS} = 0V, I _S = -0.17A			-1.2	V

Notes:

- 1) Pulse Test: Pulse Width ≤ 10μs, Duty Cycle ≤ 2%.
- 2) Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.
- 3) Guaranteed by design, not subject to production.

Typical Characteristics

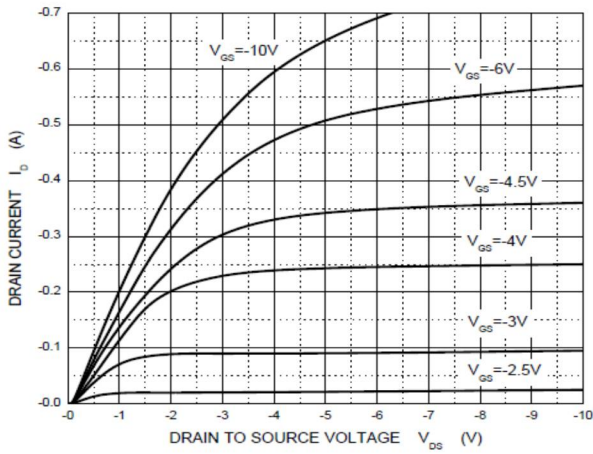


Figure1. Output Characteristics

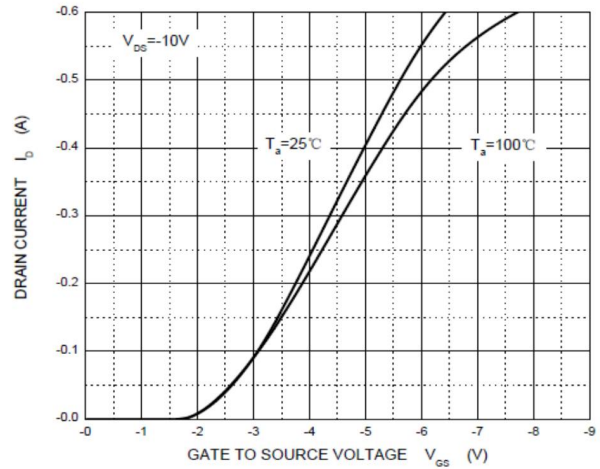


Figure2. Transfer Characteristics

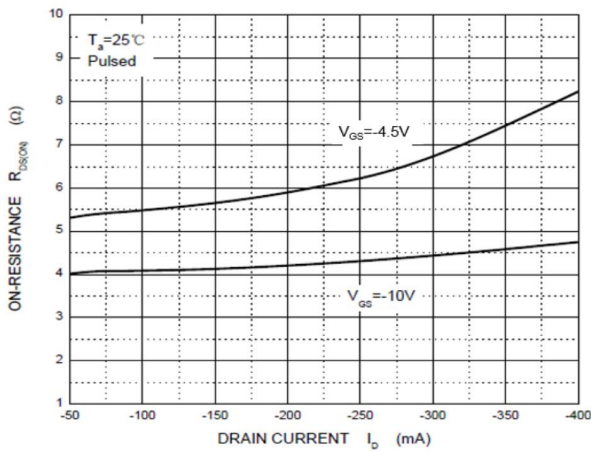


Figure3. Drain-Source on Resistance

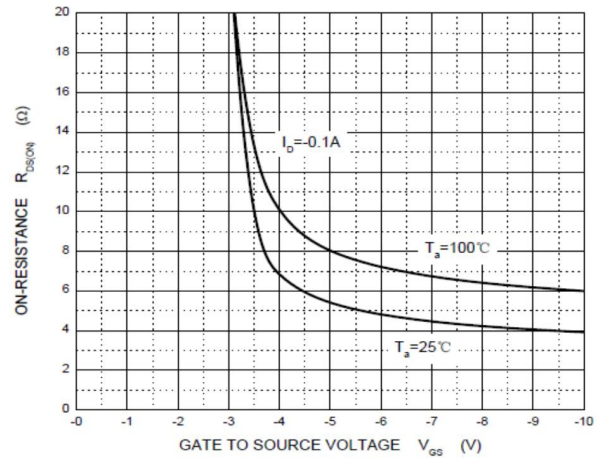


Figure4. Drain-Source on Resistance

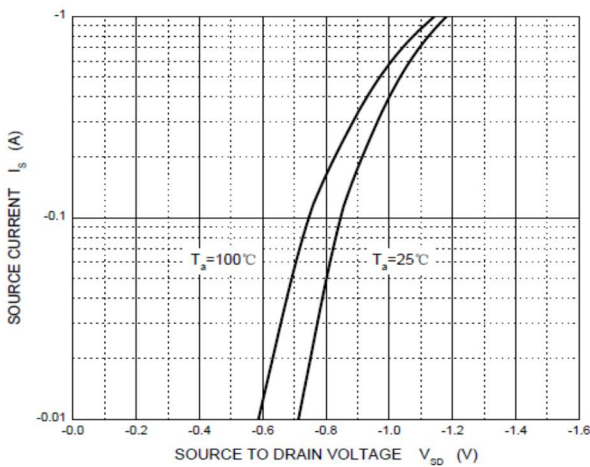


Figure5. Diode Forward Voltage vs. current

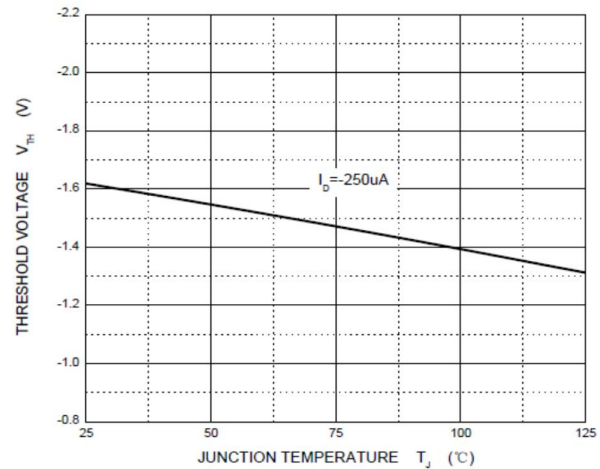


Figure6. Gate Threshold vs. Junction Temperature

Typical Characteristics

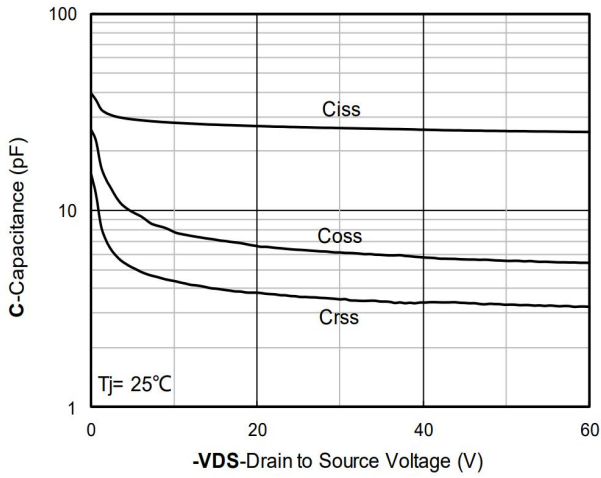


Figure 7. Capacitance Characteristics

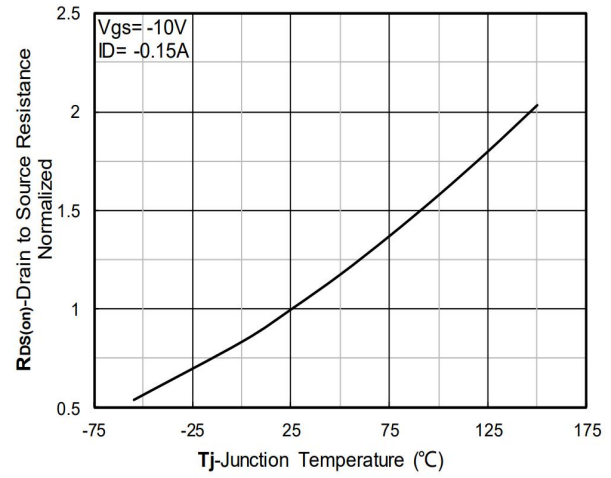
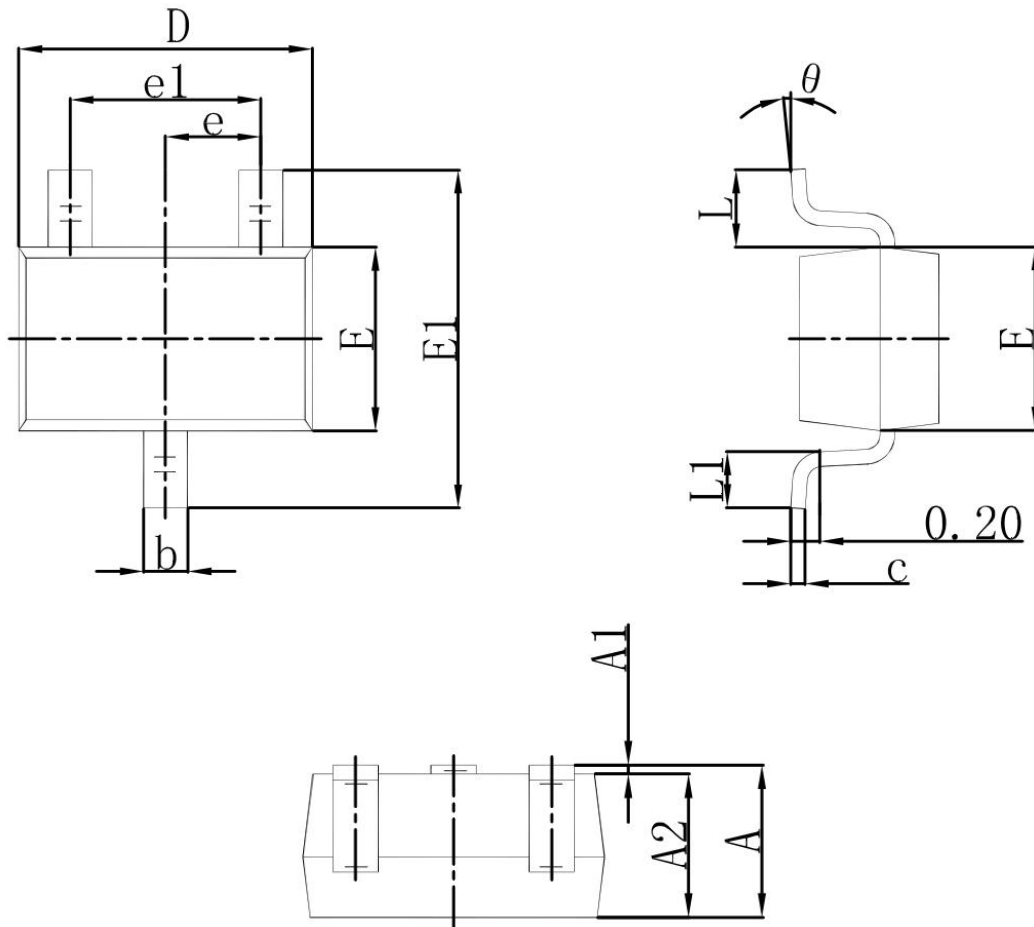


Figure 8. Normalized On-Resistance

SOT-323 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.400	0.006	0.016
c	0.080	0.250	0.003	0.016
D	1.800	2.200	0.071	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°