

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	205mΩ@-10V	-1.5A
	345mΩ@-4.5V	

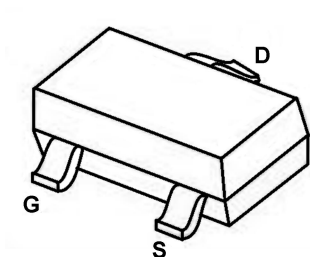
Feature

- Excellent $R_{DS(on)}$
- Low Gate Charge

Application

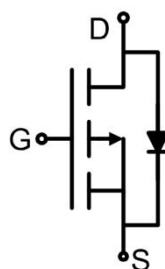
- Load switch for portable devices
- Voltage controlled small signal switch

Package

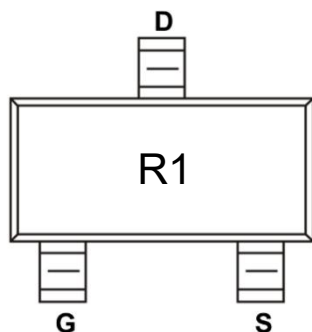


SOT-323

Circuit diagram



Marking



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹⁾ ($T_C=25^{\circ}\text{C}$)	I_D	-1.5	A
Pulsed Drain Current	I_{DM}	-6	A
Power Dissipation ¹⁾ ($T_C=25^{\circ}\text{C}$)	P_D	0.8	W
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	336	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.7	-2.5	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-1.5A$		155	205	m Ω
		$V_{GS}=-4.5V, I_D=-1A$		265	345	
Dynamic characteristics ²⁾						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		95		pF
Output Capacitance	C_{oss}			16		
Reverse Transfer Capacitance	C_{rss}			13		
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-10V, I_D=-2A$		1.6		nC
Gate-Source Charge	Q_{gs}			0.4		
Gate-Drain Charge	Q_{gd}			0.47		
Turn-on delay time	$t_{d(on)}$	$V_{GS}=-10V, V_{DS}=-15V, I_D=-1A, R_G=3\Omega$		9		nS
Turn-on rise time	t_r			20		
Turn-off delay time	$t_{d(off)}$			45		
Turn-off fall time	t_f			40		

Notes:

- 1) For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
- 2) Guaranteed by design, not subject to production.

Typical Characteristics

Fig. 1 - Output Characteristics

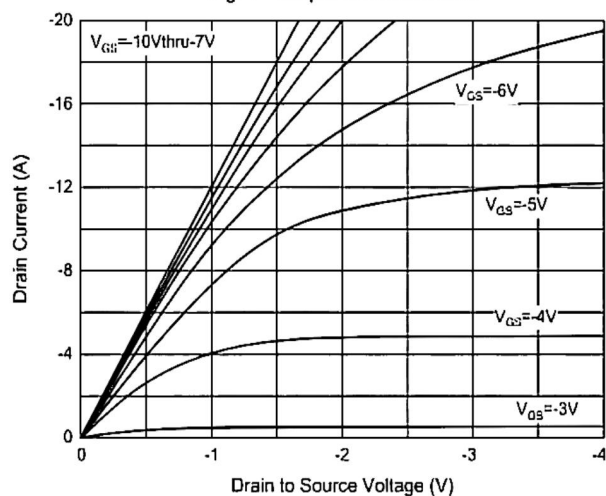


Fig. 2 - Transfer Characteristics

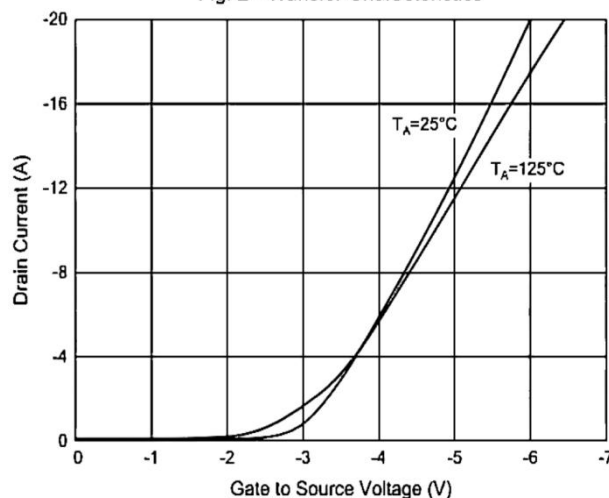


Fig. 3 - $R_{DS(ON)} - I_D$

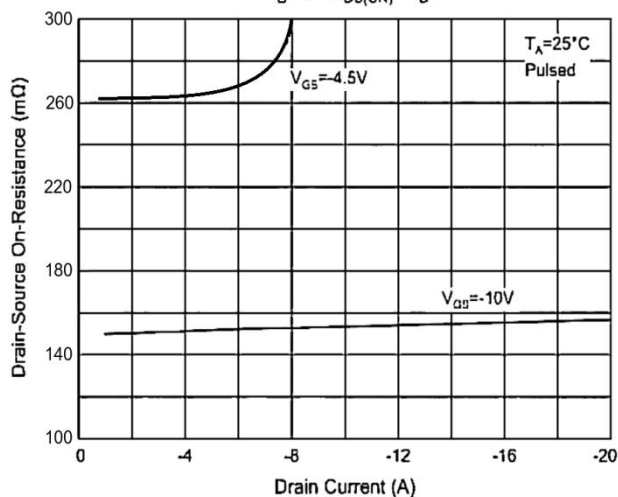


Fig. 4 - $R_{DS(ON)} - V_{GS}$

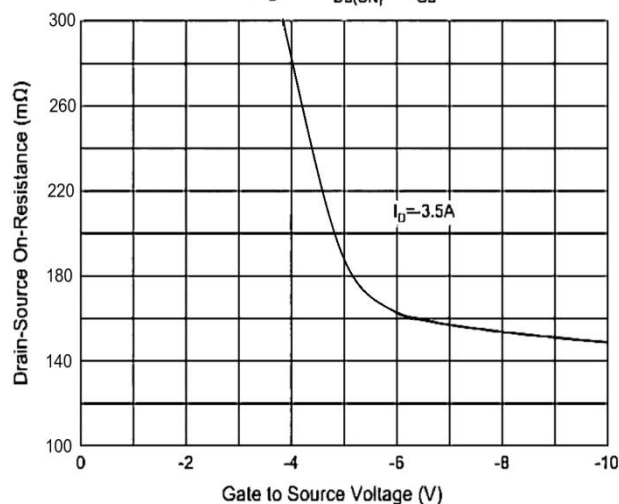


Fig. 5 - Gate Charge

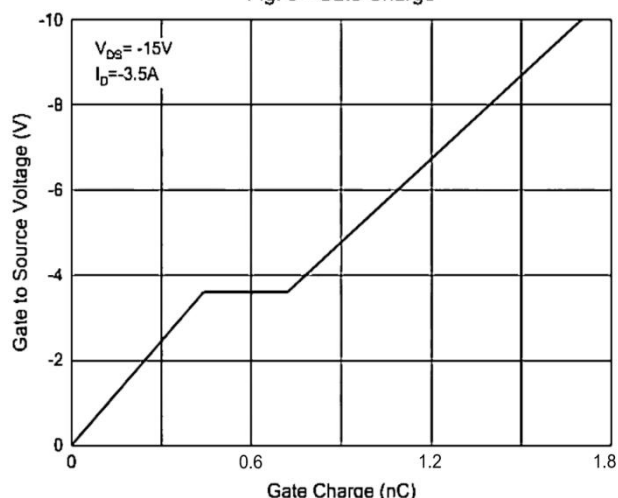
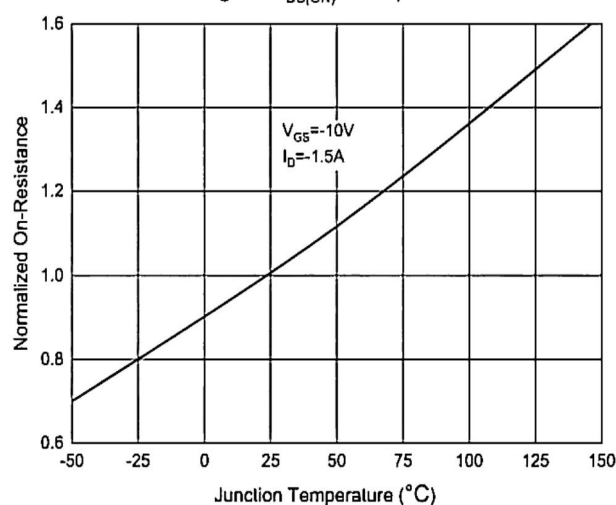
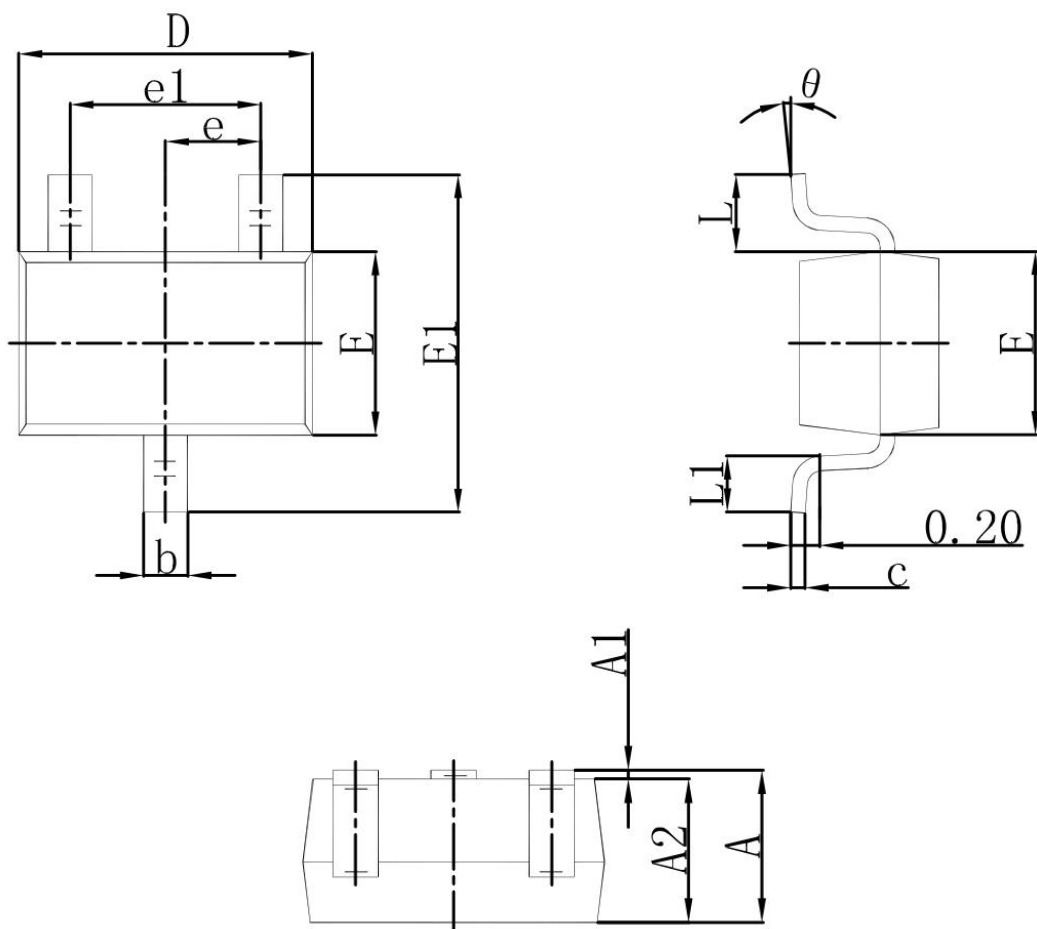


Fig. 6 - $R_{DS(ON)} - \text{Temperature}$



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 REF.		0.026 REF.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.250	0.460	0.010	0.018
θ	0°	8°	0°	8°