

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-60V	110mΩ@-10V	-2.5A
	138mΩ@-4.5V	

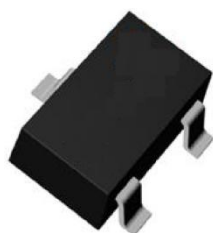
Feature

- Excellent $R_{DS(on)}$
- Low gate charge
- Surface mount package

Application

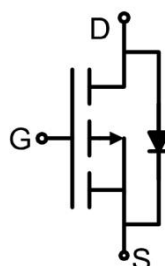
- Load Switch
- Battery Protection
- Power Management

Package

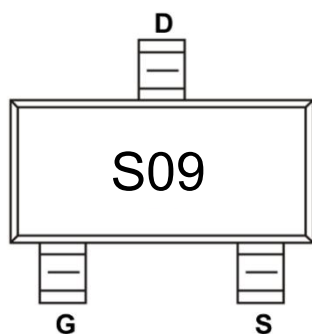


SOT-23

Circuit diagram



Marking



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ¹⁾ ($T_C=25^{\circ}\text{C}$)	I_D	-2.5	A
Pulsed Drain Current	I_{DM}	-12	A
Power Dissipation ¹⁾ ($T_C=25^{\circ}\text{C}$)	P_D	1.05	W
Thermal Resistance from Junction to Ambient ¹⁾	$R_{\theta JA}$	110	$^{\circ}\text{C}/\text{W}$
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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-60			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.1	-1.8	-2.4	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-2.5A$		88	110	m Ω
		$V_{GS}=-4.5V, I_D=-2A$		110	138	
Dynamic characteristics ²⁾						
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1MHz$		834		pF
Output Capacitance	C_{oss}			40		
Reverse Transfer Capacitance	C_{rss}			31		
Total Gate Charge	Q_g	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-2A$		15		nC
Gate-Source Charge	Q_{gs}			3.2		
Gate-Drain Charge	Q_{gd}			1.5		
Turn-on delay time	$t_{d(on)}$	$V_{DS}=-10V, V_{GS}=-4.5V, I_D=-2A, R_G=1\Omega$		8.1		nS
Turn-on rise time	t_r			21		
Turn-off delay time	$t_{d(off)}$			102		
Turn-off fall time	t_f			42		

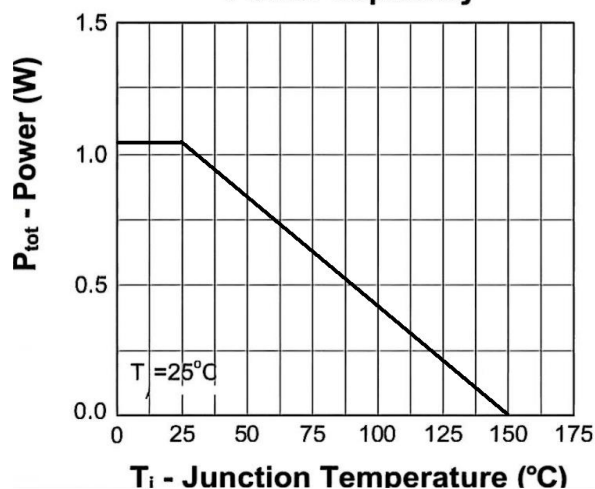
Notes:

1) Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate.

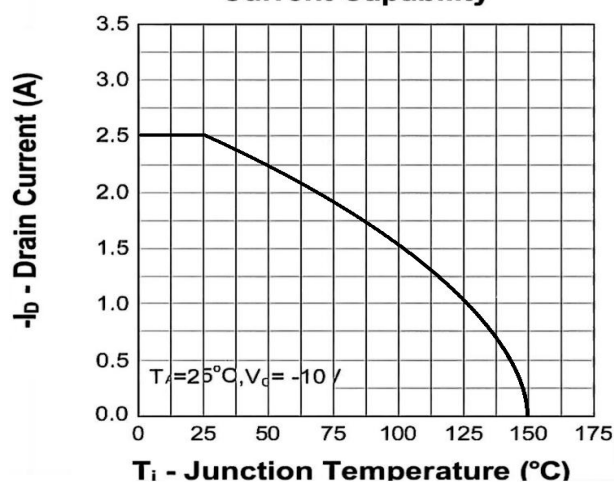
2) Guaranteed by design, not subject to production testing.

Typical Characteristics

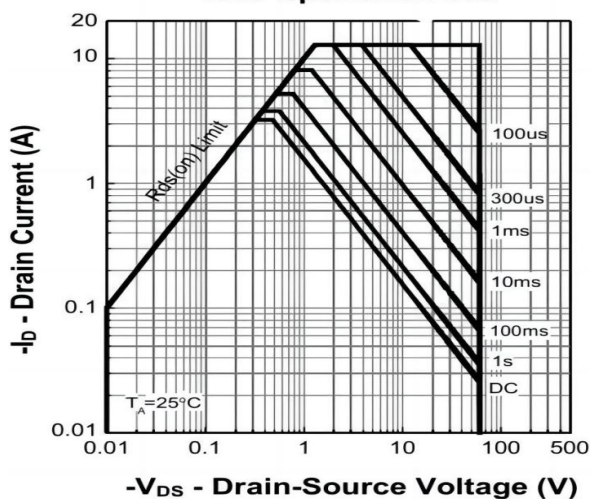
Power Capability



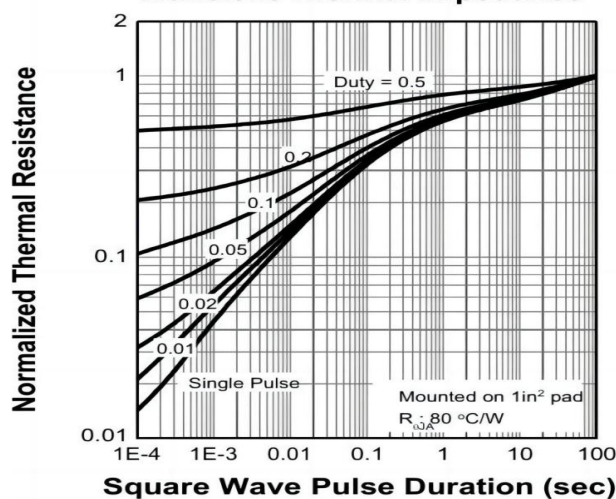
Current Capability



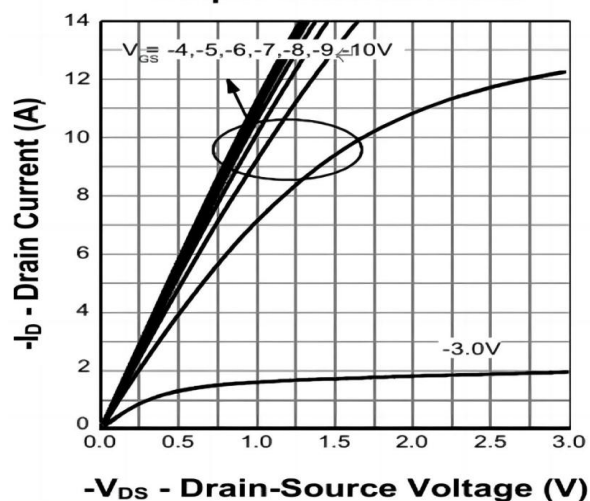
Safe Operation Area



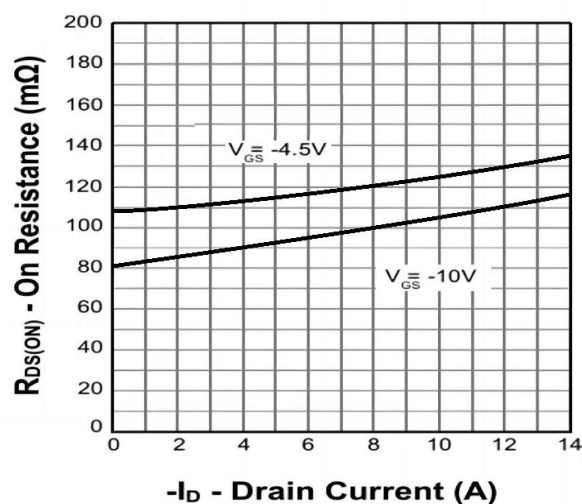
Transient Thermal Impedance



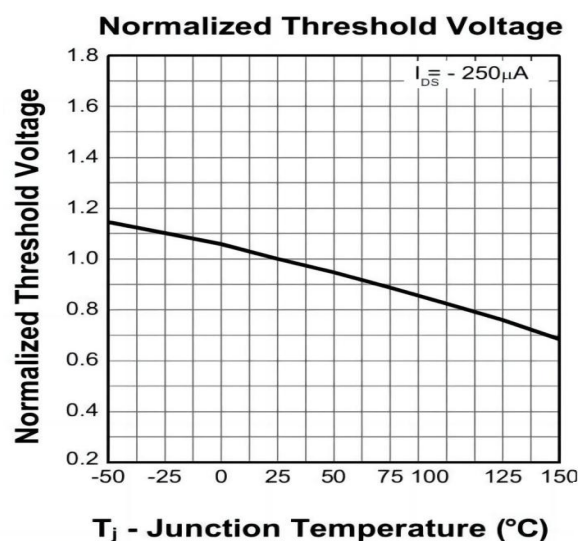
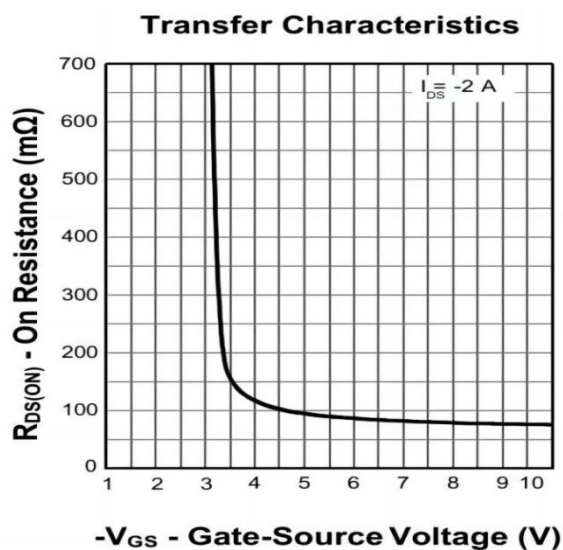
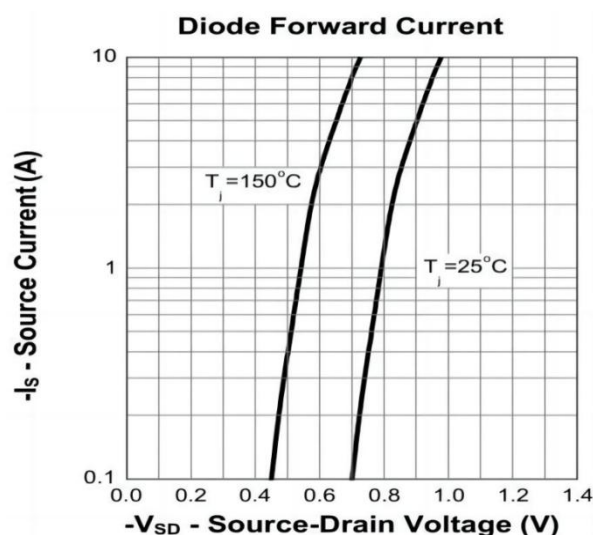
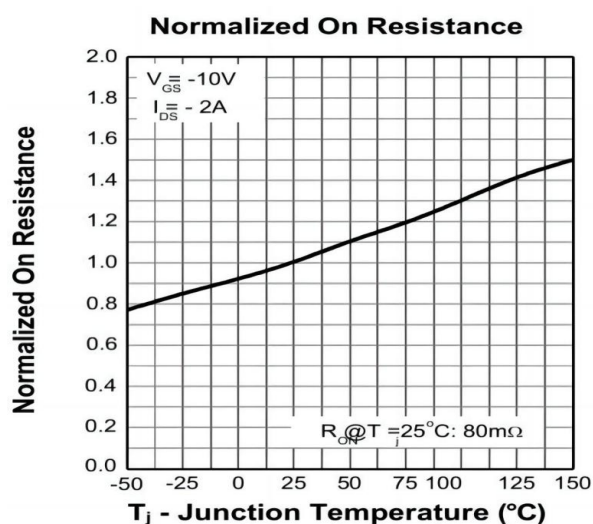
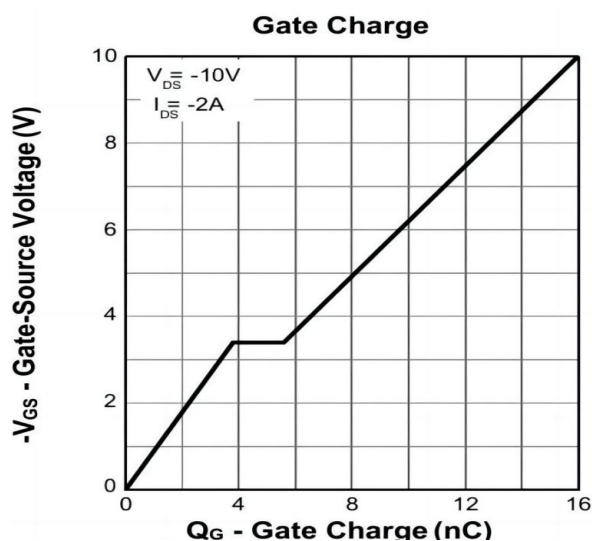
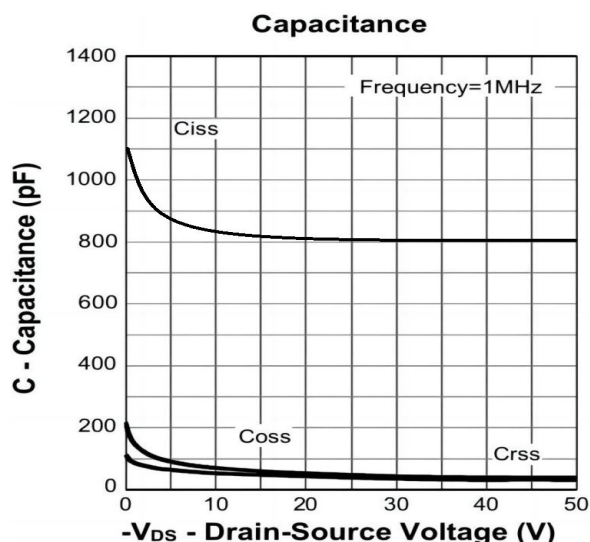
Output Characteristics



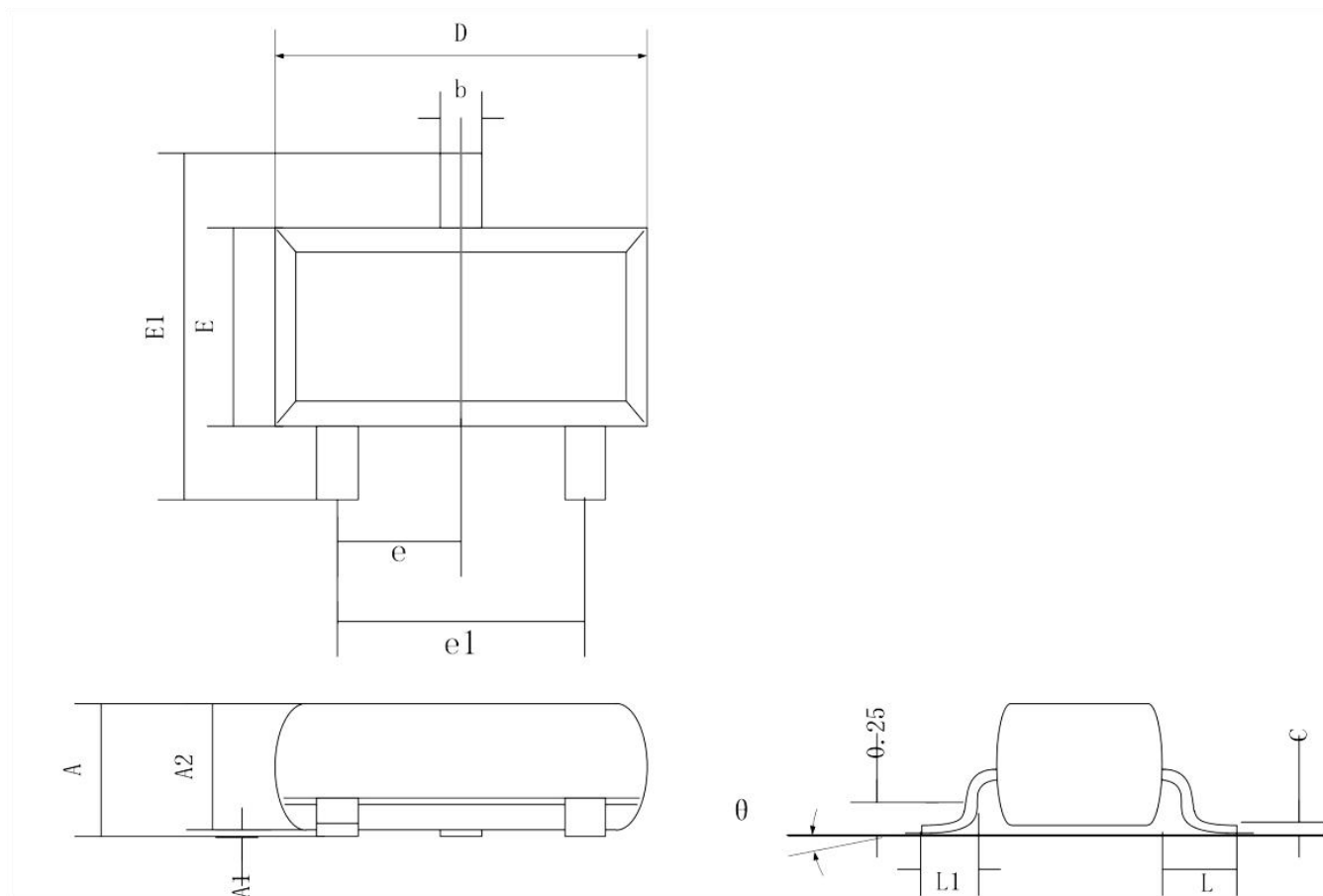
Drain-Source On Resistance



Typical Characteristics



SOT-23 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.200	0.003	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 REF.		0.037 REF.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°