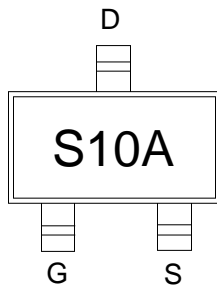


Features

- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

Application

- Power switching application

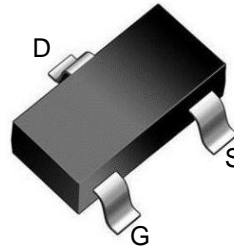


S10A: Device code

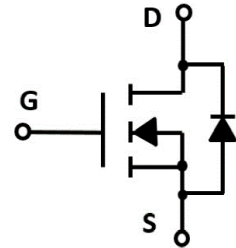
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
60V	100mΩ@10V	3A
	150mΩ@4.5V	



SOT-23 top view



Schematic diagram



Pb-Free



RoHS



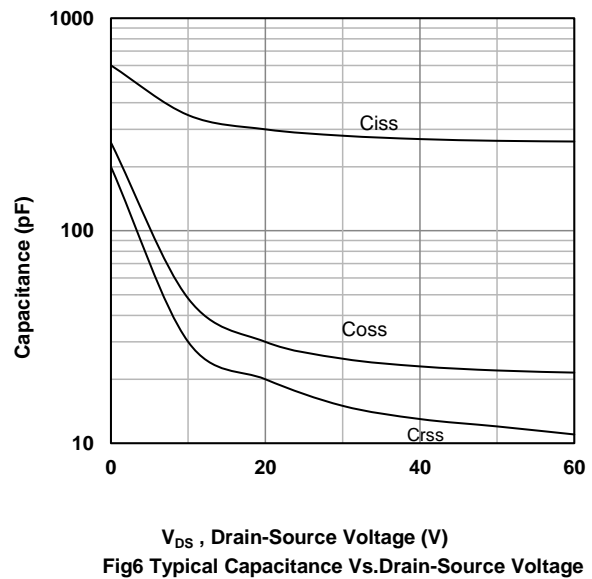
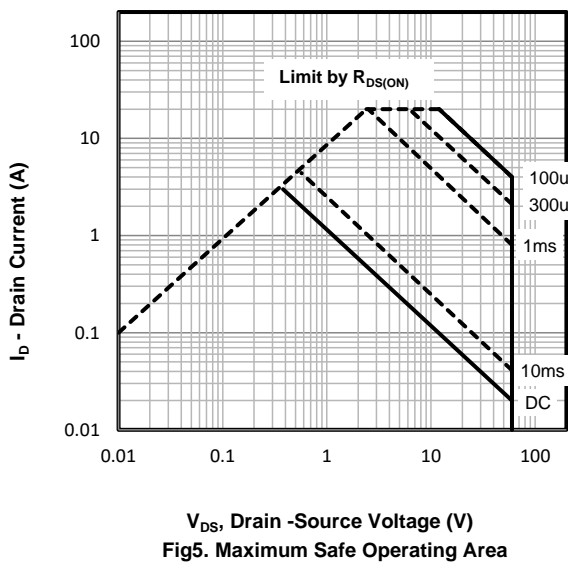
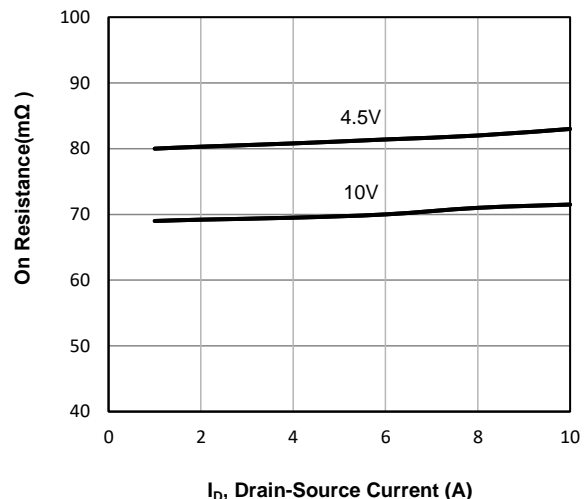
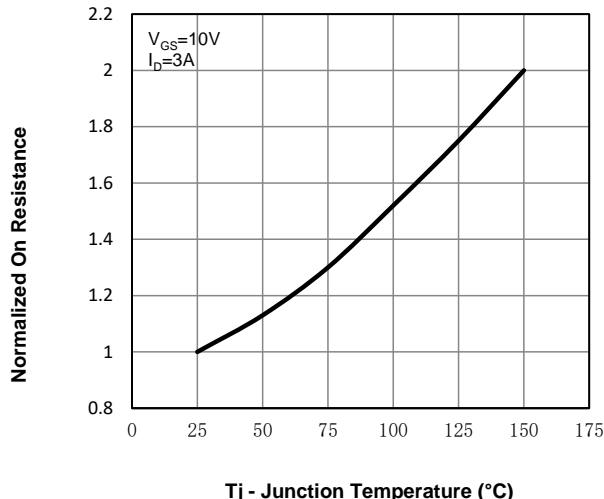
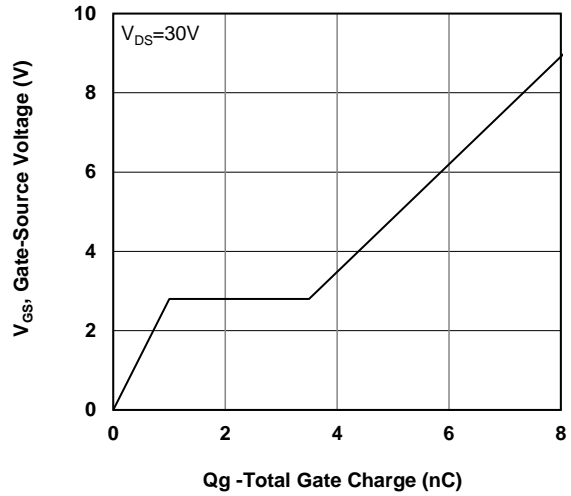
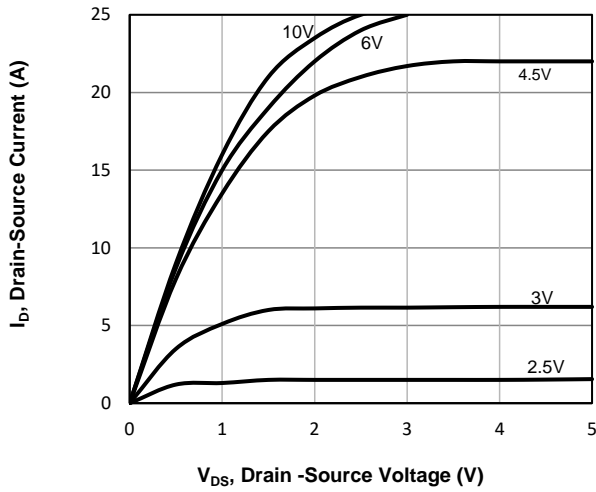
Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V_{DS}	Drain-Source Breakdown Voltage		60	V
V_{GS}	Gate-Source Voltage		±20	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
I_S	Diode Continuous Forward Current	Tc=25°C	3	A
Mounted on Large Heat Sink				
I_{DM}	Pulse Drain Current Tested	Tc=25°C	12	A
I_D	Continuous Drain Current	Tc=25°C	3	A
P_D	Maximum Power Dissipation	Tc=25°C	0.35	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		375	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
$BV_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	60	--	--	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=60V, V_{GS}=0V$	--	--	1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2.5	V
$R_{DS(on)}$	Drain-Source On-State Resistance	$V_{GS}=10V, I_D=3A$	--	70	100	m Ω
		$V_{GS}=4.5V, I_D=2A$	--	80	150	m Ω
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C_{ISS}	Input Capacitance	$V_{DS}=30V, V_{GS}=0V, f=1MHz$	--	300	--	pF
C_{OSS}	Output Capacitance		--	16	--	pF
C_{RSS}	Reverse Transfer Capacitance		--	15	--	pF
Switching Characteristics						
Q_g	Total Gate Charge	$V_{DS}=30V, I_D=3A, V_{GS}=10V$	--	10.2	--	nC
Q_{gs}	Gate Source Charge		--	1.8	--	nC
Q_{gd}	Gate Drain Charge		--	2.2	--	nC
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=30V, I_D=3A, V_{GS}=10V, R_{GEN}=1\Omega$	--	4	--	nS
t_r	Turn-on Rise Time		--	10	--	nS
$t_{d(off)}$	Turn-Off Delay Time		--	12.5	--	nS
t_f	Turn-Off Fall Time		--	1.8	--	nS
Source- Drain Diode Characteristics						
V_{SD}	Forward on voltage	$T_J=25^\circ C, I_S=3A,$	--	0.8	1.2	V

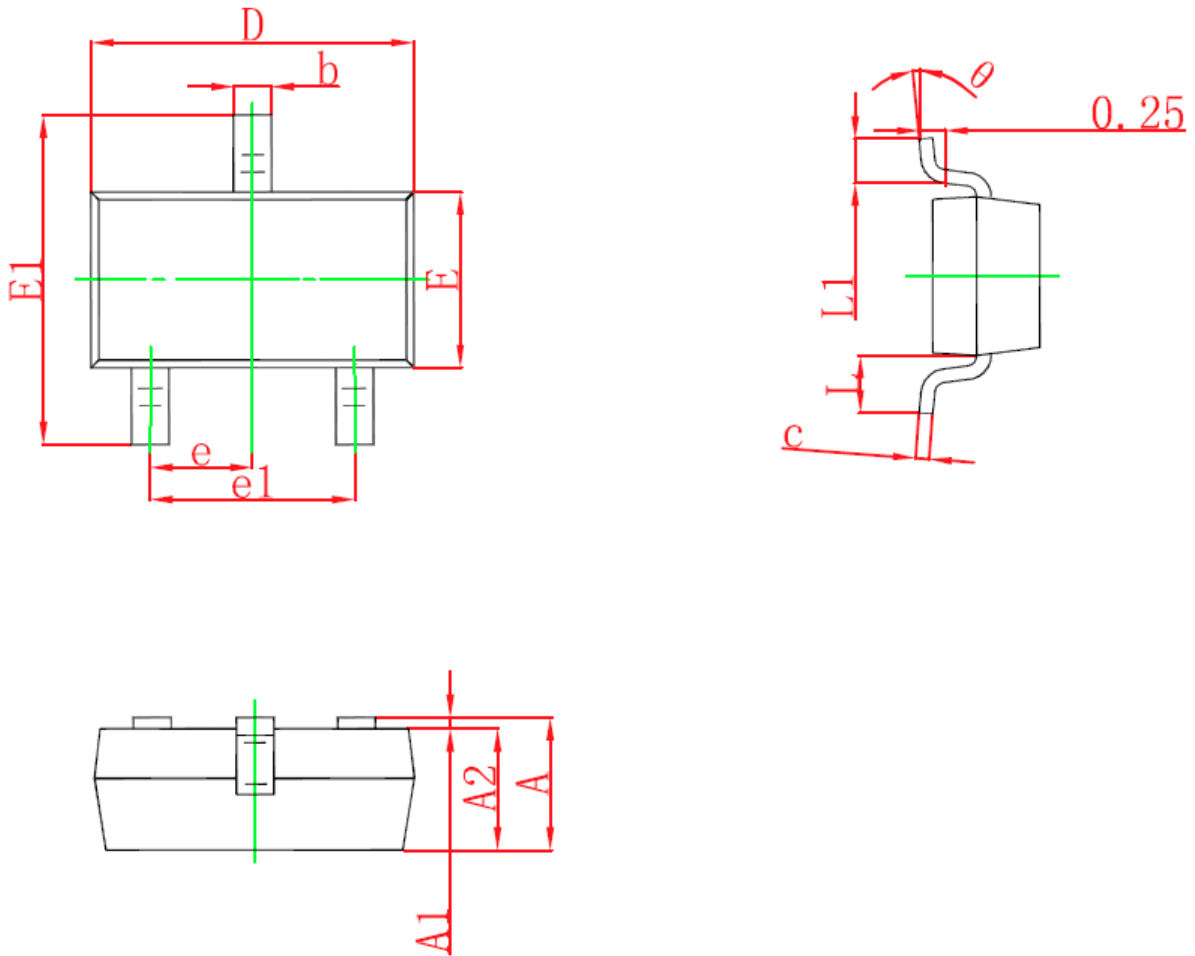


Typical Operating Characteristics





SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		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	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
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
theta	0°	8°	0°	8°