

GENERAL FEATURES

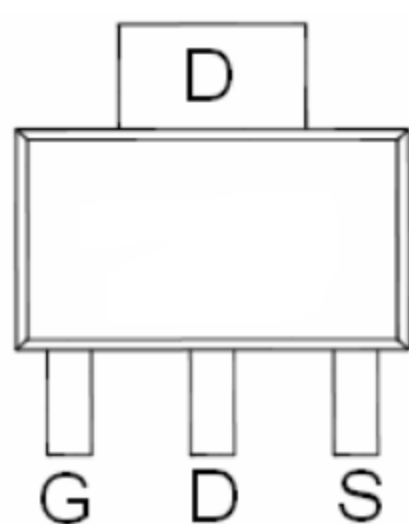
V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
-100V	650mΩ@-10V	-2A
	700mΩ@-4.5V	

Application

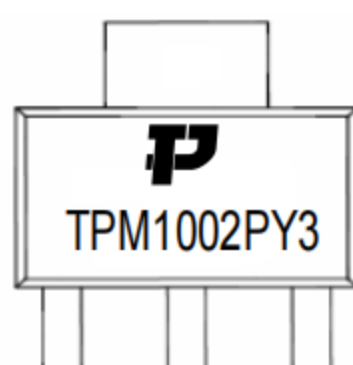
- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

Package and Pin Configuration

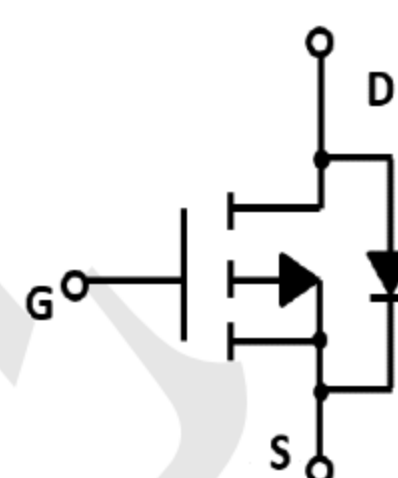
SOT223



Marking:



Circuit diagram

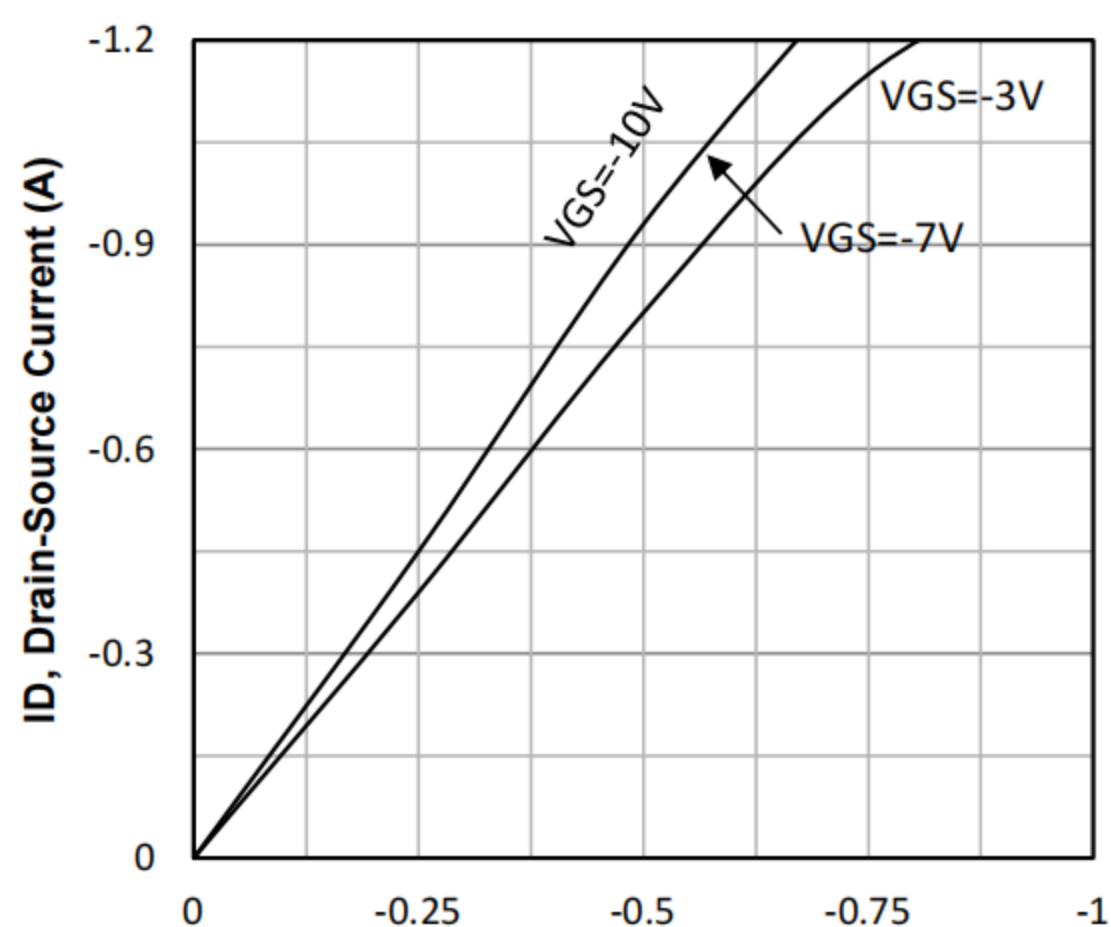


Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		-100	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	-2	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	-5	A
I _D	Continuous Drain Current@GS=10V	Tc=25°C	-2	A
P _D	Maximum Power Dissipation	Tc=25°C	3.5	W
R _{θJA}	Thermal Resistance Junction-to-Ambient		85	°C/W

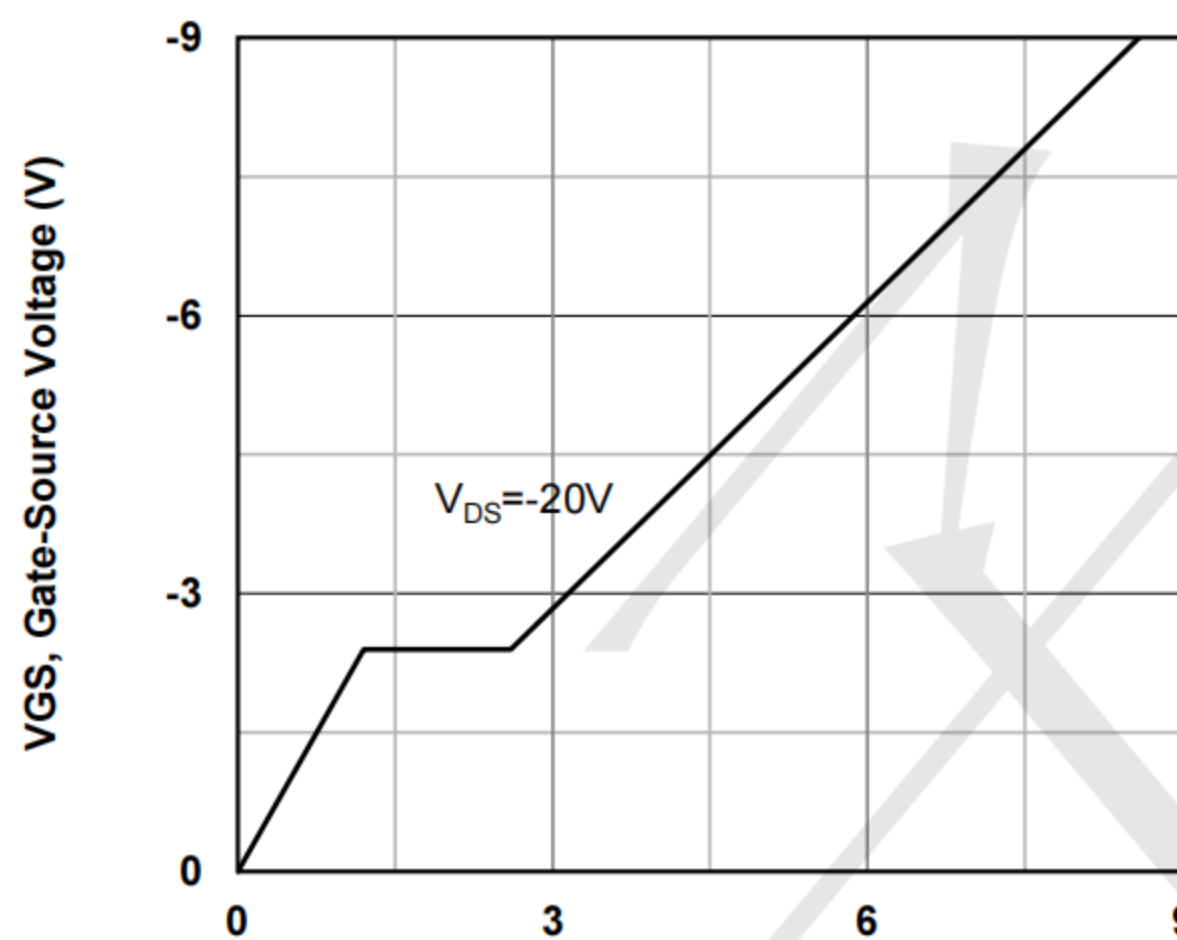
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

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)						
B _{V(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250μA	-100	--	—	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-100V, V _{GS} =0V	--	--	-1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-1.0	-2.0	-2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =-10V, I _D =-1A	--	560	650	mΩ
		V _{GS} =-4.5V, I _D =-0.5A	--	630	700	mΩ
Dynamic Electrical Characteristics @ T _J = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =-15V, V _{GS} =0V, f=1MHz	--	553	—	pF
C _{OSS}	Output Capacitance		--	29	—	pF
C _{RSS}	Reverse Transfer Capacitance		--	20	—	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =-15V, I _D =-0.5A, V _{GS} =-4.5V	--	4.5	—	nC
Q _{gs}	Gate Source Charge		--	1.15	—	nC
Q _{gd}	Gate Drain Charge		--	1.5	—	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =-50V, I _D =-0.5A, V _{GS} =-10V, R _G =3.3Ω	--	13.6	—	nS
t _r	Turn-on Rise Time		--	6.8	—	nS
t _{d(off)}	Turn-Off Delay Time		--	34	—	nS
t _f	Turn-Off Fall Time		--	3	—	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25°C, I _S =-2A,	--	--	-1.2	V

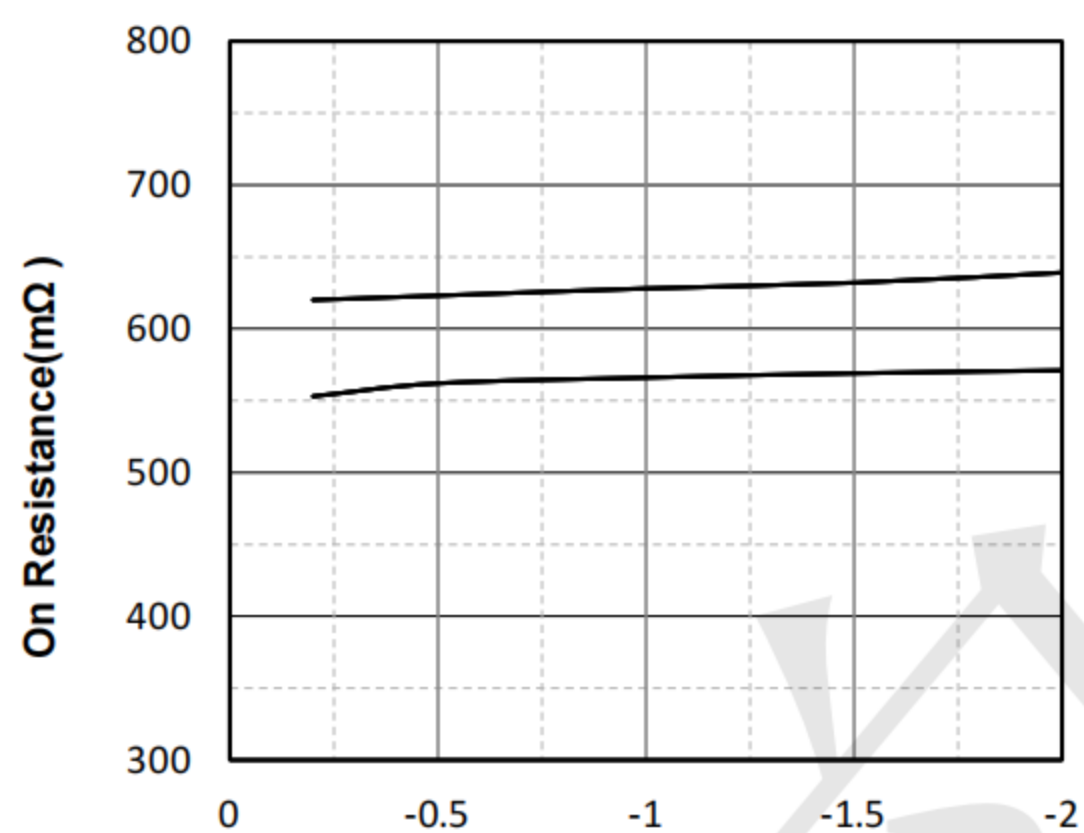
Typical Electrical and Thermal Characteristics



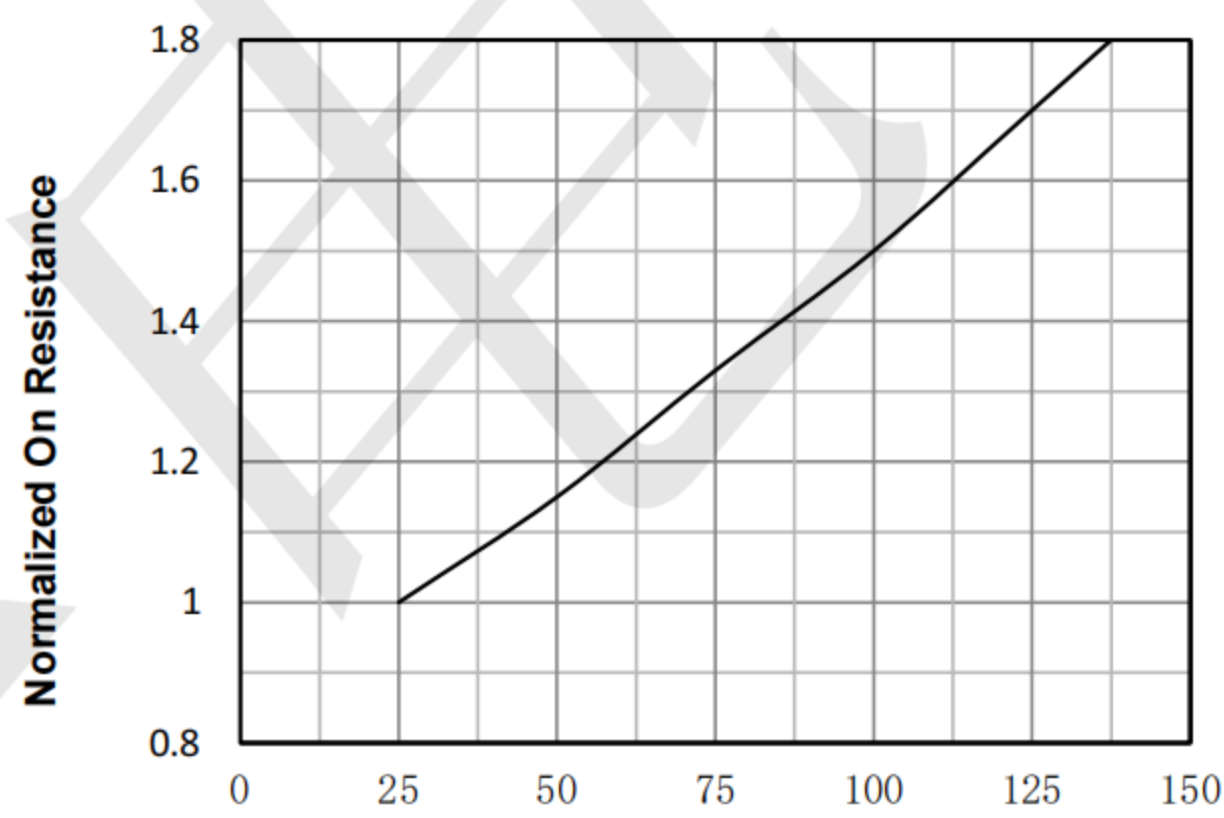
VDS, Drain -Source Voltage (V)
Fig1. Typical Output Characteristics



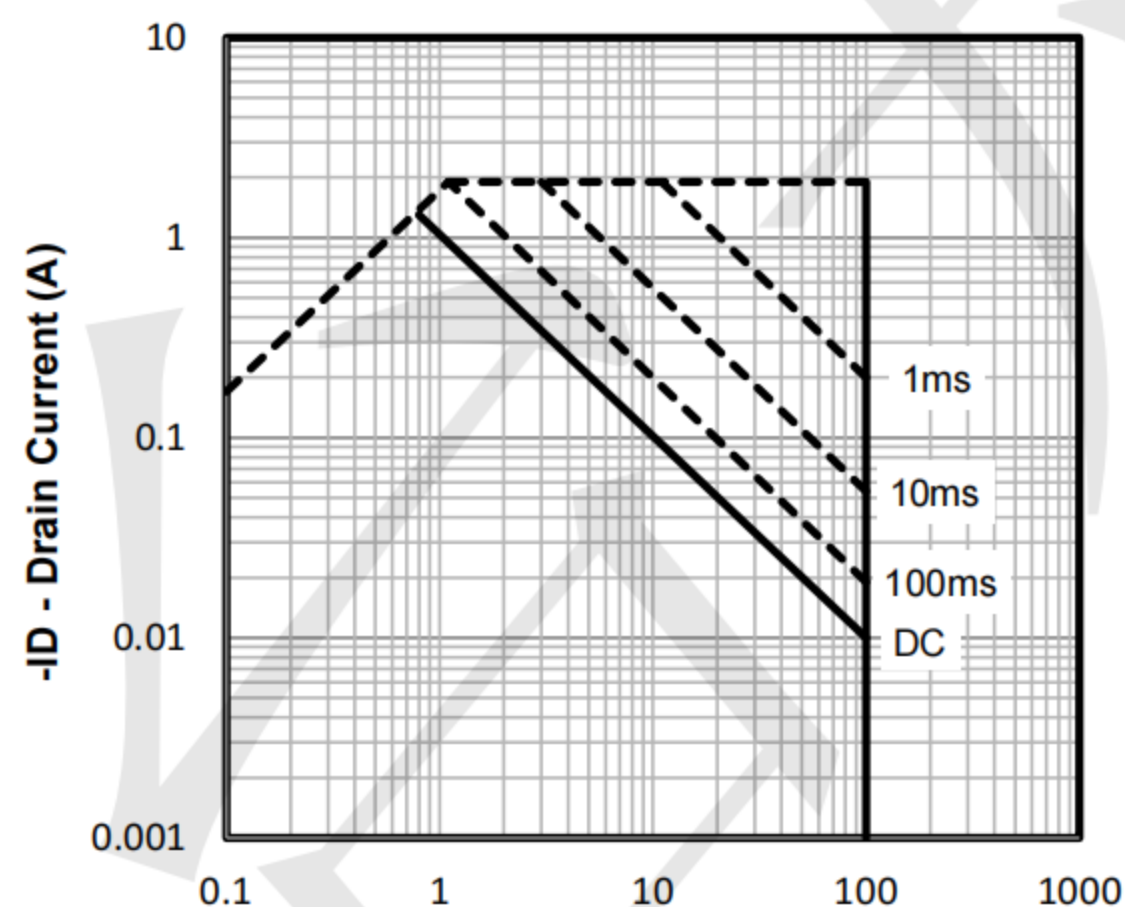
Qg -Total Gate Charge (nC)
Fig2. Typical Gate Charge Vs. Gate-Source Voltage



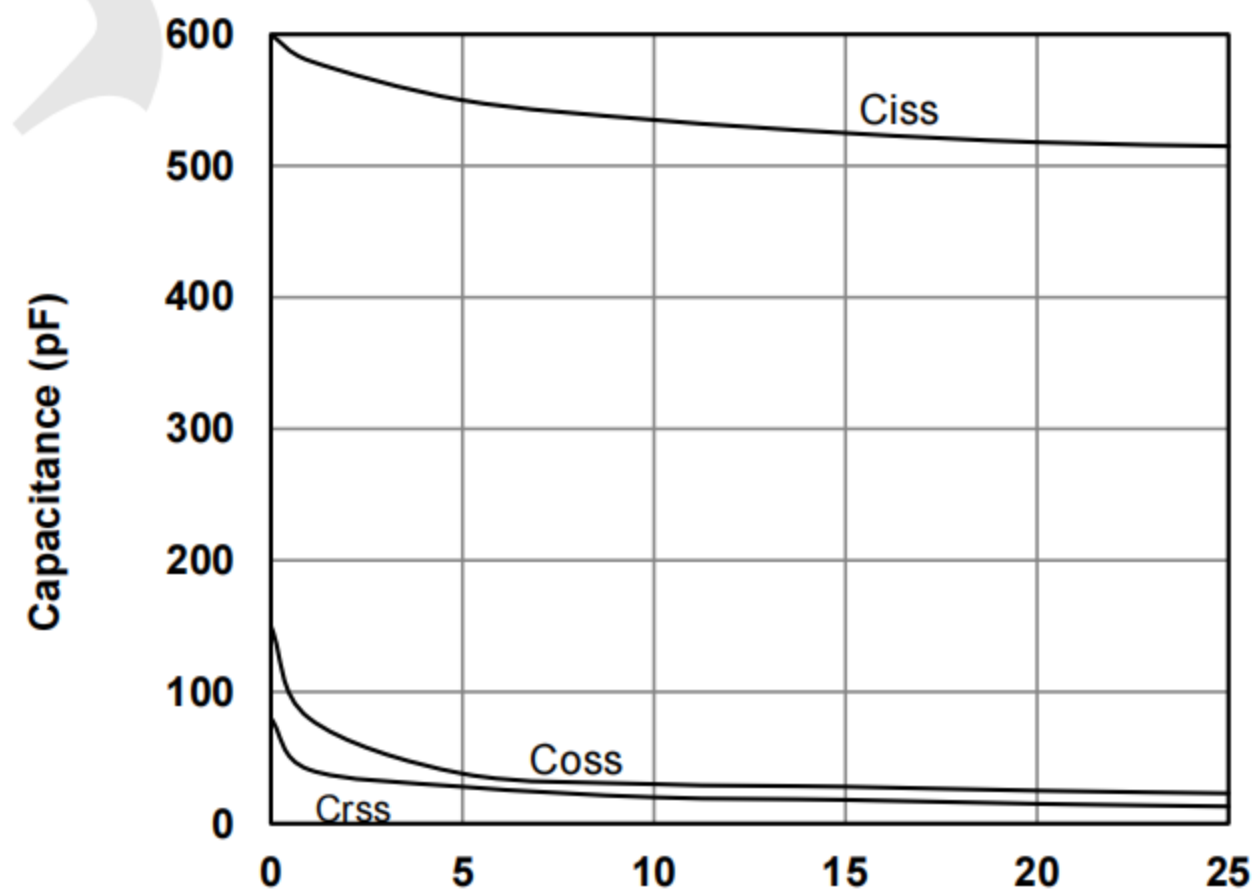
ID, Drain-Source Current (mA)
Fig3. Drain-Source on Resistance



Tj - Junction Temperature (°C)
Fig4. Normalized On-Resistance Vs. Temperature

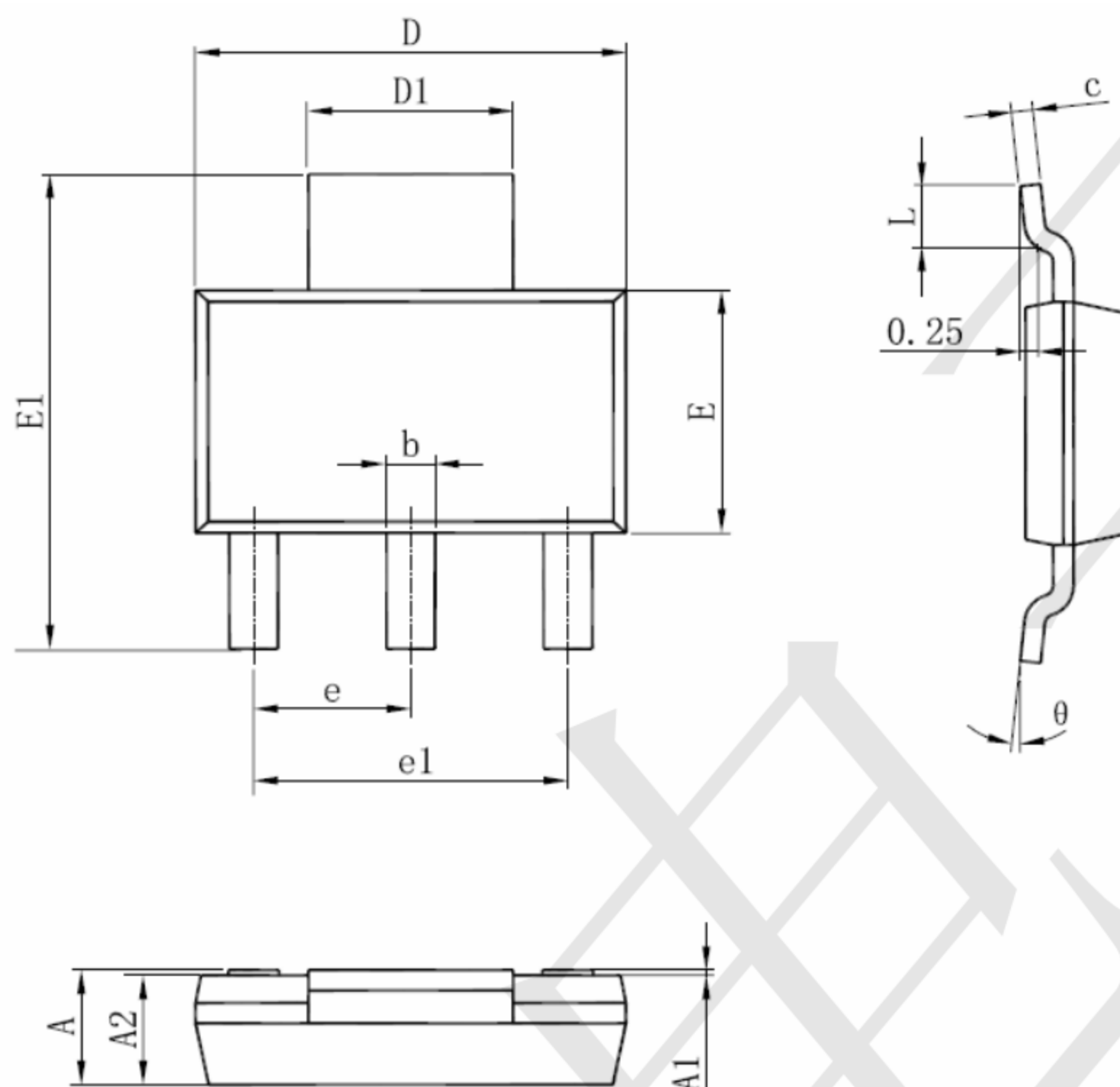


-VDS, Drain -Source Voltage (V)
Fig5. Maximum Safe Operating Area



-VDS, Drain-Source Voltage (V)
Fig6 Typical Capacitance Vs. Drain-Source Voltage

SOT-223 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
e	2.300(BSC)		0.091(BSC)	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°