SSC8027GS7

P-Channel Enhancement Mode MOSFET

➢ Features

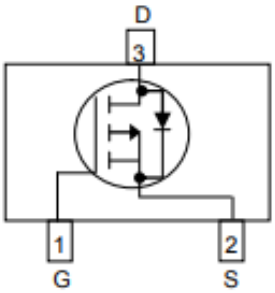
V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-20V	±8V	140mΩ@-4V5	-2.7A
		190mΩ@-2V5	
		280mΩ@-1V8	

➢ Pin configuration

SOT-323

➢ Description

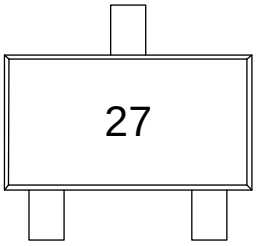
The SSC8027GS7 is P-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in load switch, electronic cigarette and Battery Isolation.



Pin Configuration (Top View)

➢ Applications

- Load Switch
- Electronic Cigarette
- Battery Isolation



Marking

➢ Ordering Information

Device	Package	Shipping
SSC8027GS7	SOT-323	3000/Reel

➢ Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-20	V
V_{GSS}	Gate-to-Source Voltage	±8	V
I_D	Continuous Drain Current [a]	-2.7	A
I_{DM}	Pulsed Drain Current [b]	-11	A
P_D	Power Dissipation [c]	1.7	W
T_J	Operation junction temperature	-55~150	℃
T_{STG}	Storage temperature range	-55~150	℃

➢ Thermal Resistance Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	62	℃/W

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t≤10s thermal resistance rating.

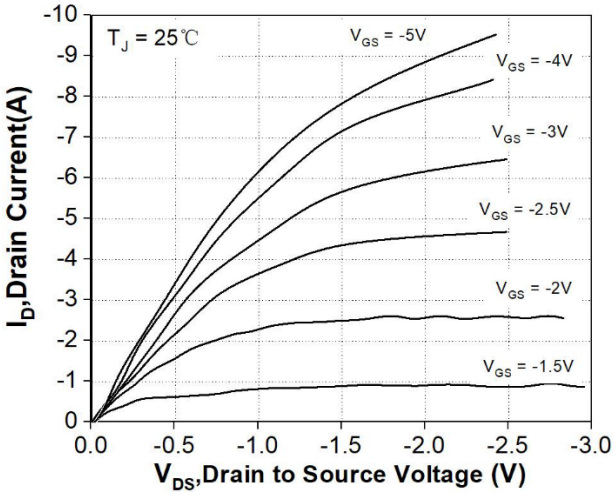
b. Repetitive rating, pulse width limited by junction temperature.

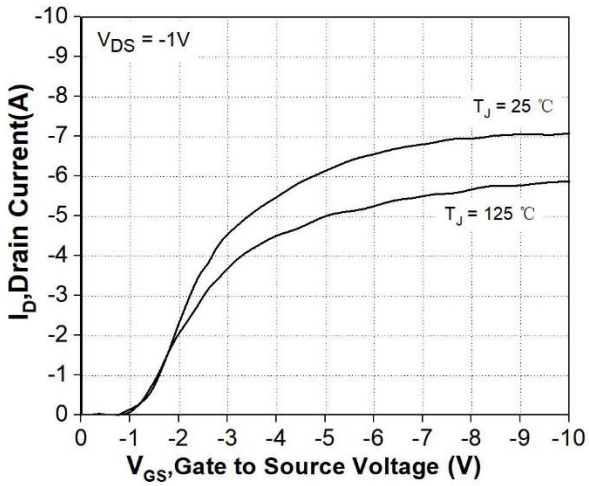
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

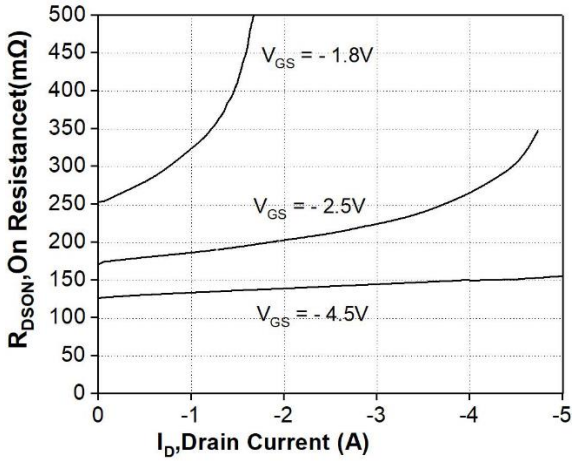
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

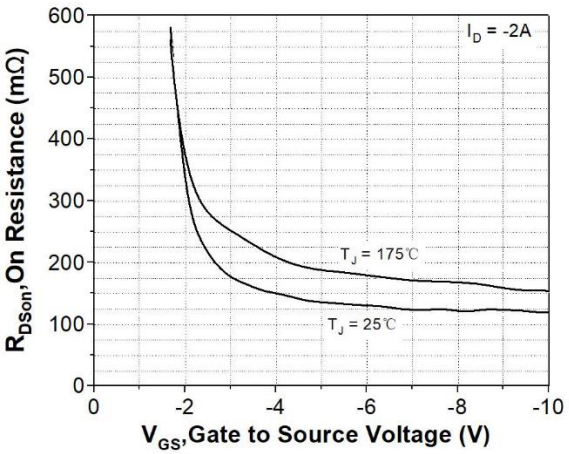
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-0.4	-0.75	-1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -0.45A		140	350	mΩ
		V_{GS} = -2.5V, I_D = -0.35A		190	450	
		V_{GS} = -1.8V, I_D = -0.25A		280	700	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V			-1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±8V, V_{DS} = 0V			±100	nA
Transconductance	G_{FS}	V_{DS} = -5V, I_D = -2A		6.6		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -1A		-0.8	-1.3	V
Input Capacitance	C_{ISS}	V_{DS} = -10V, V_{GS} = 0V, f = 1MHz		227		pF
Output Capacitance	C_{OSS}			115		
Reverse Transfer Capacitance	C_{RSS}			39		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -4.5V, V_{DS} = -10V, R_L = 5Ω, R_G = 3Ω		12		ns
Rise Time	T_r			6.2		
Turn-off Delay Time	$T_{D(OFF)}$			25		
Fall Time	T_f			10		
Total Gate Charge	Q_G	V_{GS} = -4.5V, V_{DS} = -10V, I_D = -2A		3.5		nC
Gate to Source Charge	Q_{GS}			0.5		
Gate to Drain Charge	Q_{GD}			1.3		

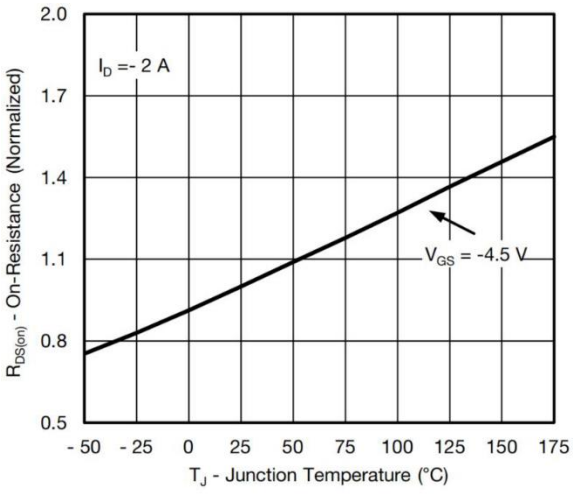
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



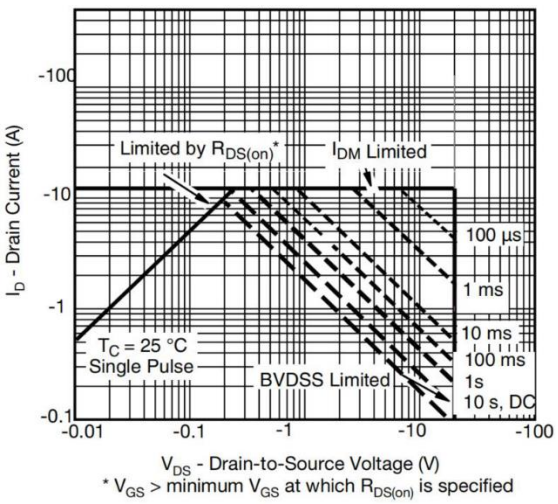






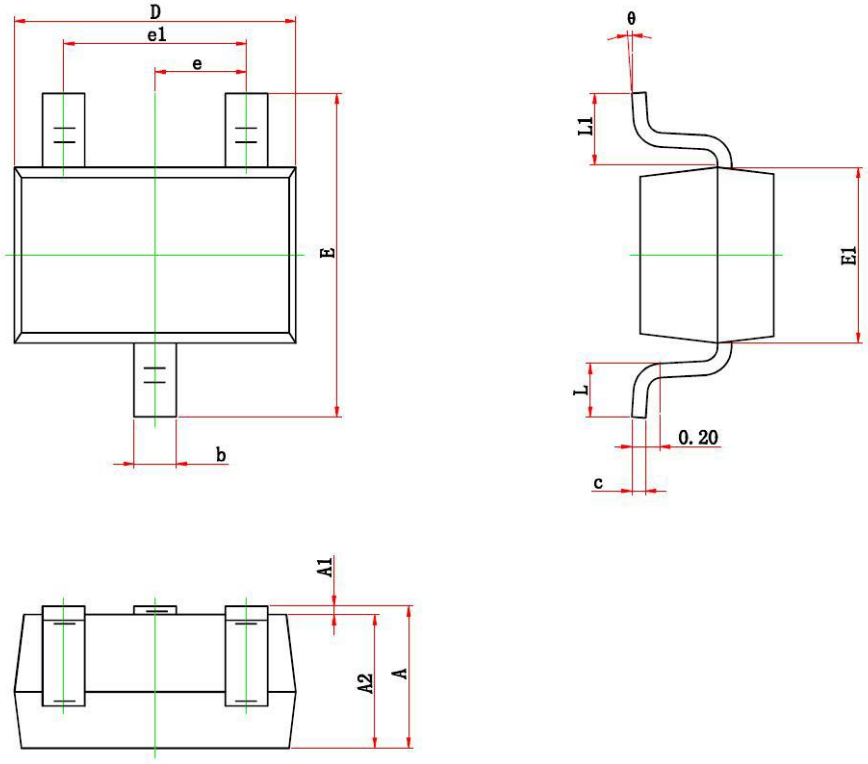


On-Resistance vs. Junction Temperature



Safe Operating Area

➢ 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	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	2.150	2.450	0.085	0.096
E1	1.150	1.350	0.045	0.053
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.260	0.460	0.010	0.018
L1	0.525 REF.		0.021 REF.	
θ	0°	8°	0°	8°

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