



## SSC8239GT6

### P-Channel Enhancement Mode MOSFET

#### ➤ Features

V <sub>DS</sub>	V <sub>GS</sub>	R <sub>DS(ON)</sub>	I <sub>D</sub>
-30V	±20V	6.5mΩ@-10V	-84A
		8.9mΩ@-4V5	

#### ➤ Description

This SSC8239GT6 uses advanced trench technology to provide excellent R<sub>DS(ON)</sub> and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.

**100% UIS + ΔV<sub>DS</sub> + R<sub>g</sub> Tested!**

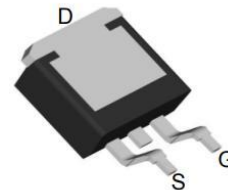
#### ➤ Applications

- Load Switch
- NB Battery
- DCDC Conversion

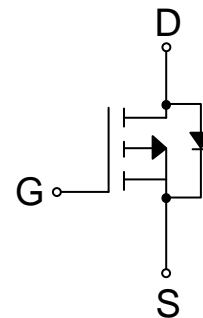
#### ➤ Ordering Information

Device	Package	Shipping
SSC8239GT6	TO-263-3L	1000/Box

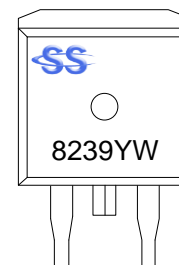
#### ➤ Pin configuration



**TO-263-3L (Bottom View)**



**Pin Configuration**



**Marking**

(YW: Internal Traceability Code)



## ➤ Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V <sub>DSS</sub>	Drain-to-Source Voltage	-30	V
V <sub>GSS</sub>	Gate-to-Source Voltage	±20	V
I <sub>D</sub>	Continuous Drain Current <sup>d</sup>	T <sub>C</sub> =25°C	-84
		T <sub>C</sub> =100°C	-47
I <sub>DSM</sub>	Continuous Drain Current <sup>a</sup>	T <sub>A</sub> =25°C	-17
		T <sub>A</sub> =70°C	-12
I <sub>DM</sub>	Pulsed Drain Current <sup>b</sup>	-336	A
P <sub>D</sub>	Power Dissipation <sup>c</sup>	T <sub>C</sub> =25°C	74
		T <sub>C</sub> =100°C	29
P <sub>DSM</sub>	Power Dissipation <sup>a</sup>	T <sub>A</sub> =25°C	2.9
		T <sub>A</sub> =70°C	1.9
I <sub>AS</sub>	Avalanche Current <sup>b</sup> L=0.5mH Single Pulse	-30	A
E <sub>AS</sub>	Avalanche Energy <sup>b</sup> L=0.5mH Single Pulse	225	mJ
T <sub>J</sub>	Operation junction temperature	-55~150	°C
T <sub>STG</sub>	Storage temperature range	-55~150	

## ➤ Thermal Resistance Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
R <sub>θJA</sub>	Junction-to-Ambient Thermal Resistance <sup>a</sup>	43	°C/W
R <sub>θJC</sub>	Junction-to-Case Thermal Resistance	1.7	

Note:

- The value of R<sub>θJA</sub> is measured with the device mounted on 1 in<sup>2</sup> FR-4 board with 2oz.copper, in a still air environment with T<sub>A</sub>=25°C. 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.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P<sub>D</sub> is based on T<sub>J(MAX)</sub>=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.
- The maximum current rating is package limited.

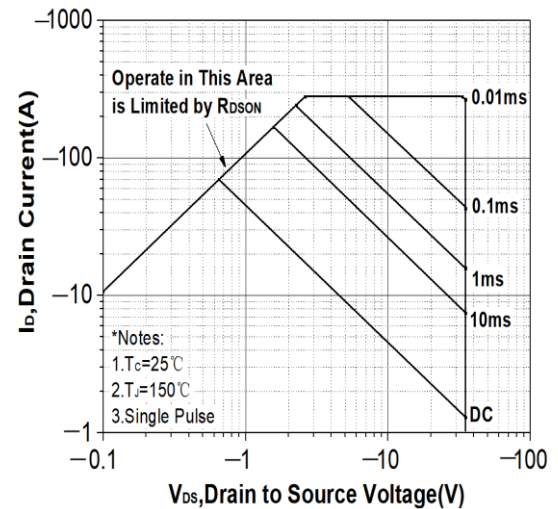
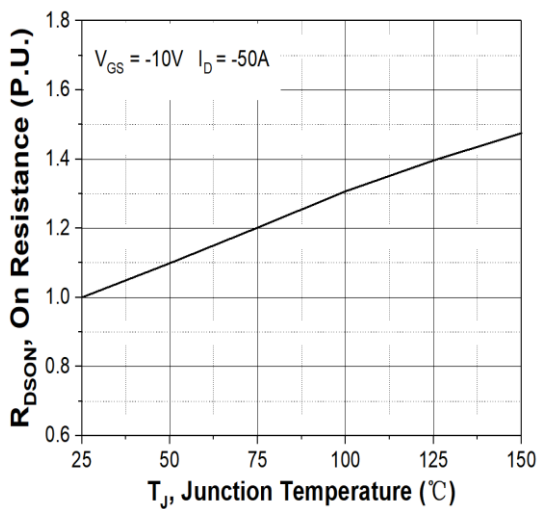
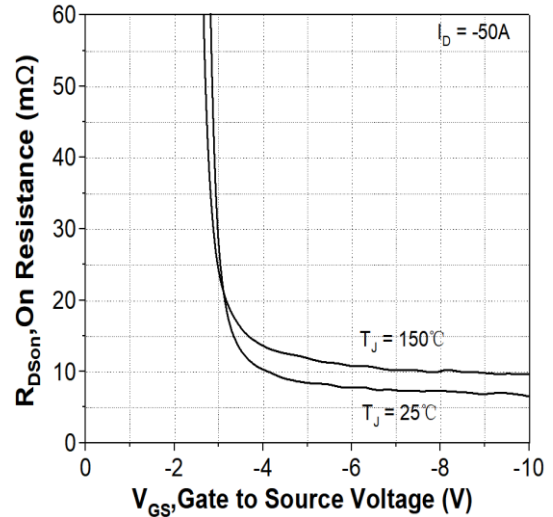
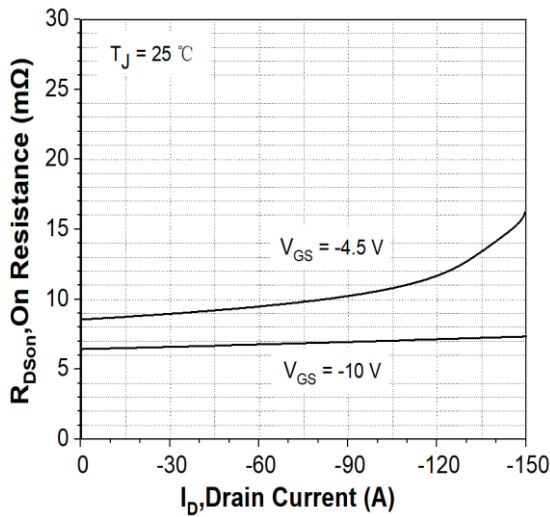
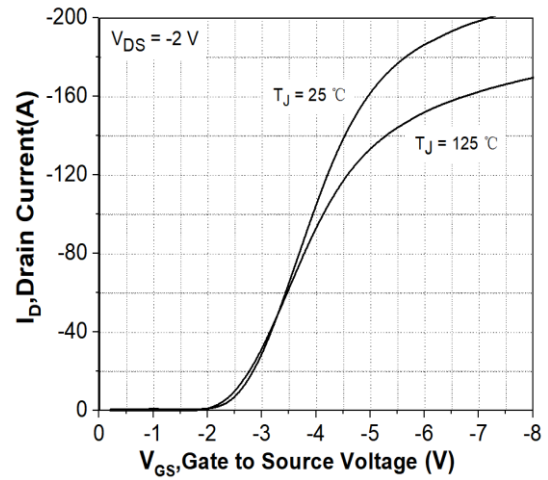
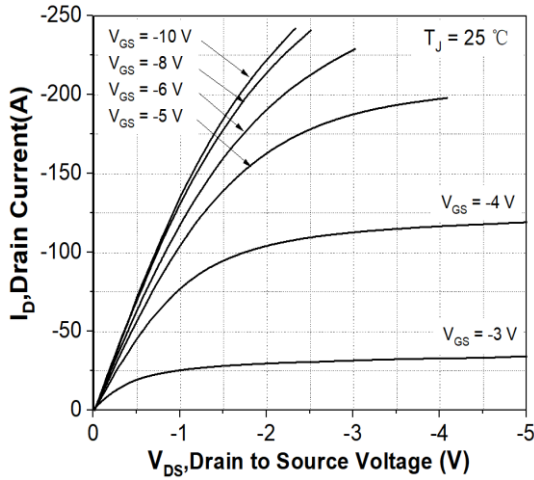


➤ **Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

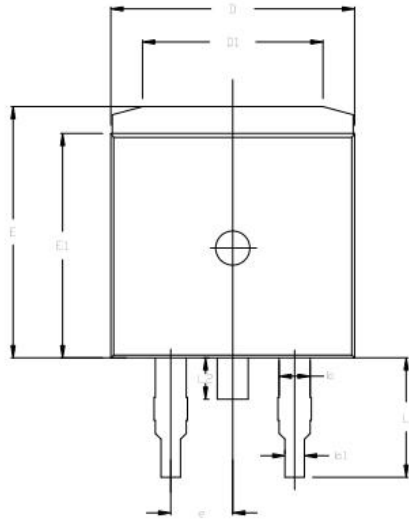
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250uA	-1	-1.5	-2.5	V
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -20A		6.5	8.5	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -10A		8.9	12	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -24V, V <sub>GS</sub> = 0V			1	μA
Gate-Source Leak Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Transconductance	G <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -10A		35		s
Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -5A		-0.8	-1.3	V
Gate Resistance	R <sub>G</sub>	V <sub>DS</sub> = 0V, f = 1MHz		2.3		Ω
Input Capacitance	C <sub>ISS</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V, f = 1MHz		4900		pF
Output Capacitance	C <sub>OSS</sub>			520		
Reverse Transfer Capacitance	C <sub>RSS</sub>			400		
Total Gate Charge	Q <sub>G</sub>	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -15V, I <sub>D</sub> = -20A		82		nC
Gate to Source Charge	Q <sub>GS</sub>			11		
Gate to Drain Charge	Q <sub>GD</sub>			20		
Turn-on Delay Time	T <sub>D(ON)</sub>	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -15V, R <sub>L</sub> = 0.75Ω, R <sub>G</sub> = 3Ω		16		ns
Rise Time	T <sub>r</sub>			52		
Turn-off Delay Time	T <sub>D(OFF)</sub>			107		
Fall Time	T <sub>f</sub>			26		
Diode Recovery Time	T <sub>rr</sub>	I <sub>F</sub> = -20A, di/dt = 500A/us		26		ns
Diode Recovery Charge	Q <sub>rr</sub>	I <sub>F</sub> = -20A, di/dt = 500A/us		18		nC



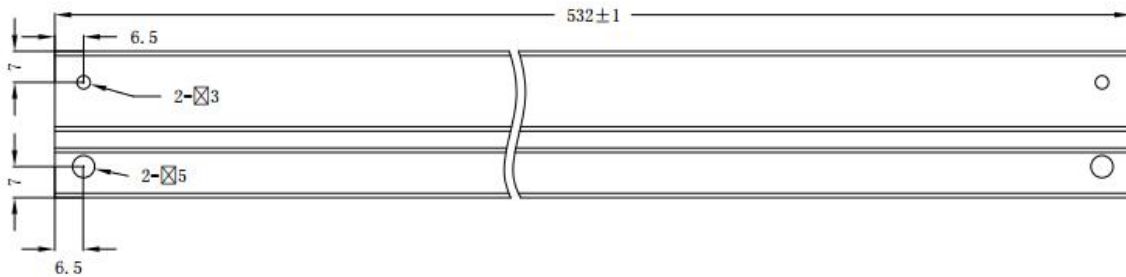
➤ Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)



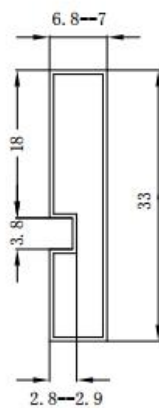
## Package Information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	4.40	--	4.60
b	1.20	--	1.36
b1	0.70	--	0.90
C	0.48	--	0.53
C1	1.28	--	1.32
C2	0.04	0.12	0.20
D	9.80	10.00	10.20
D1	7.25	7.40	7.55
E	10.20	10.30	10.40
E1	9.10	9.20	9.30
e	--	2.54	--
L	4.70	4.90	5.10
L1	2.40	2.60	2.80
L2	1.50	1.70	1.90



T=0.5 ±0.1



### 技术要求:

1. 材料: 透明PVC
2. 表面电阻: 10E5~10E10 OHMS/SQ
3. 未注尺寸公差±0.3
4. 黑色钉子由厂家出货时塞于左端



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