

P-Channel Enhancement Mode MOSFET

- **Features**

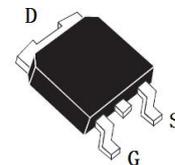
VDS	VGS	RDSon TYP	ID
-30V	±20V	27mR@-10V	-8A
		39mR@-4V5	

- **Applications**

- Load Switch
- DCDC conversion
- NB battery

- **Pin Configuration**

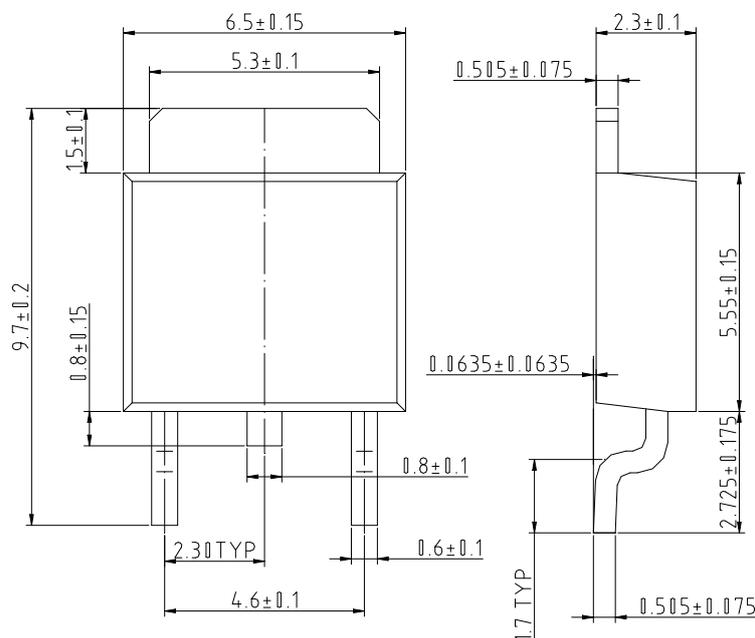
Top View



- **General Description**

This device is produced with high cell density, DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage power management requiring a wide range of given voltage ratings (4.5V~25V) such as load switch and battery protection.

- **Package Information**



TO-252

Units:mm



SSC8037GT8

● **Absolute Maximum Ratings** @ $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DSS}	-30	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current (Note 1)	Continuous $T_A=25^\circ\text{C}$	I_D	-8	A
	Pulsed (Note 2)	I_{DM}	-30	A
Total Power Dissipation (Note 1)		P_D	2.5	W
Operating and Storage Junction Temperature Range		T_J, T_{STG}	-55 to 150	$^\circ\text{C}$

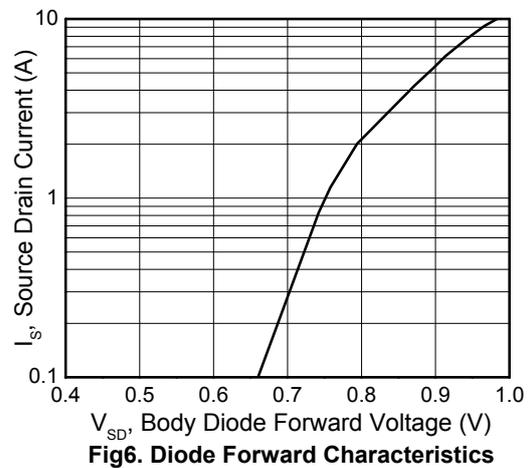
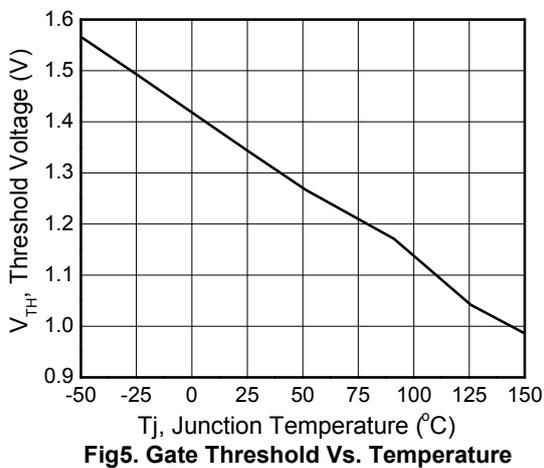
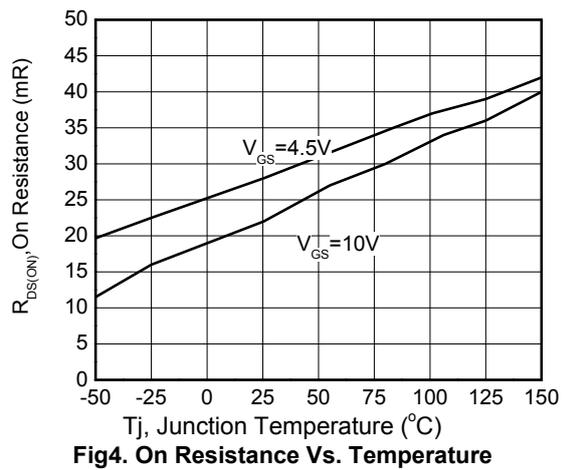
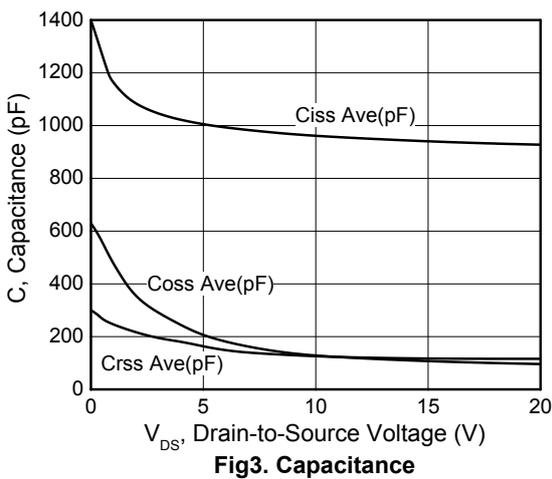
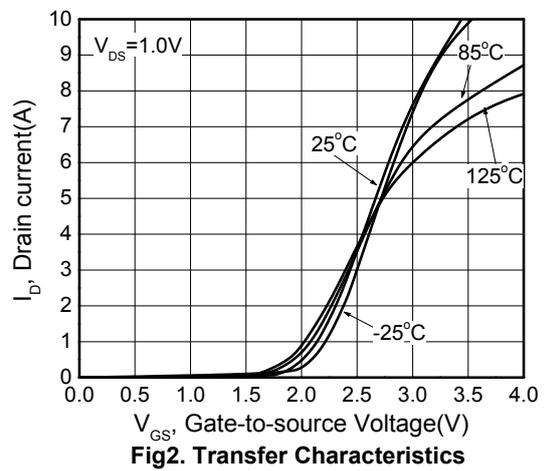
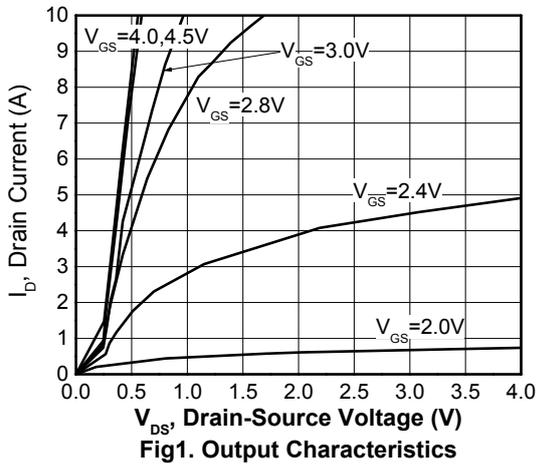
● **Electrical Characteristics** @ $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -250\mu\text{A}$	-30	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = -250\mu\text{A}$	-1	-1.5	-3	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -24\text{ V}, V_{GS} = 0\text{ V}$	--	--	-1	μA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = -10\text{ V}, I_D = -6\text{ A}$	--	27	35	mR
		$V_{GS} = -4.5\text{ V}, I_D = -5\text{ A}$	--	39	50	
Forward Transconductance	G_{FS}	$V_{DS} = -5\text{ V}, I_D = -4\text{ A}$	--	12	--	S
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = -1\text{ A}$	--	-0.77	-1.5	V
Input Capacitance	C_{ISS}	$V_{DS} = -15\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	950	--	pF
Output Capacitance	C_{OSS}		--	137	--	
Reverse Transfer Capacitance	C_{RSS}		--	118	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = -15\text{ V}, R_L = 2.5R,$	--	--	18	nS
Turn-Off Delay Time	$T_{D(OFF)}$	$V_{GS} = -10\text{ V}, R_{GEN}=3R$	--	--	70	

Note:

1. The value of P_D is measured with the device mounted on 1 in^2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$. The value in any given application depends on the user's specific board design. The current rating is based on the DC thermal resistance rating.
2. Repetitive rating, pulse width limited by junction temperature.

● P-channel Typical Performance Characteristics





SSC8037GT8

DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G., OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.