

N-Channel Enhancement Mode MOSFET

- **Features**

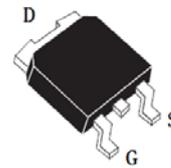
VDS	VGS	RDSon TYP	ID
20V	±12V	3.5mR@10V	70A
		4.5mR@4V5	
		6.0mR@3V3	

- **Applications**

- Desktop Computer
- Notebook

- **Pin Configuration**

Top View

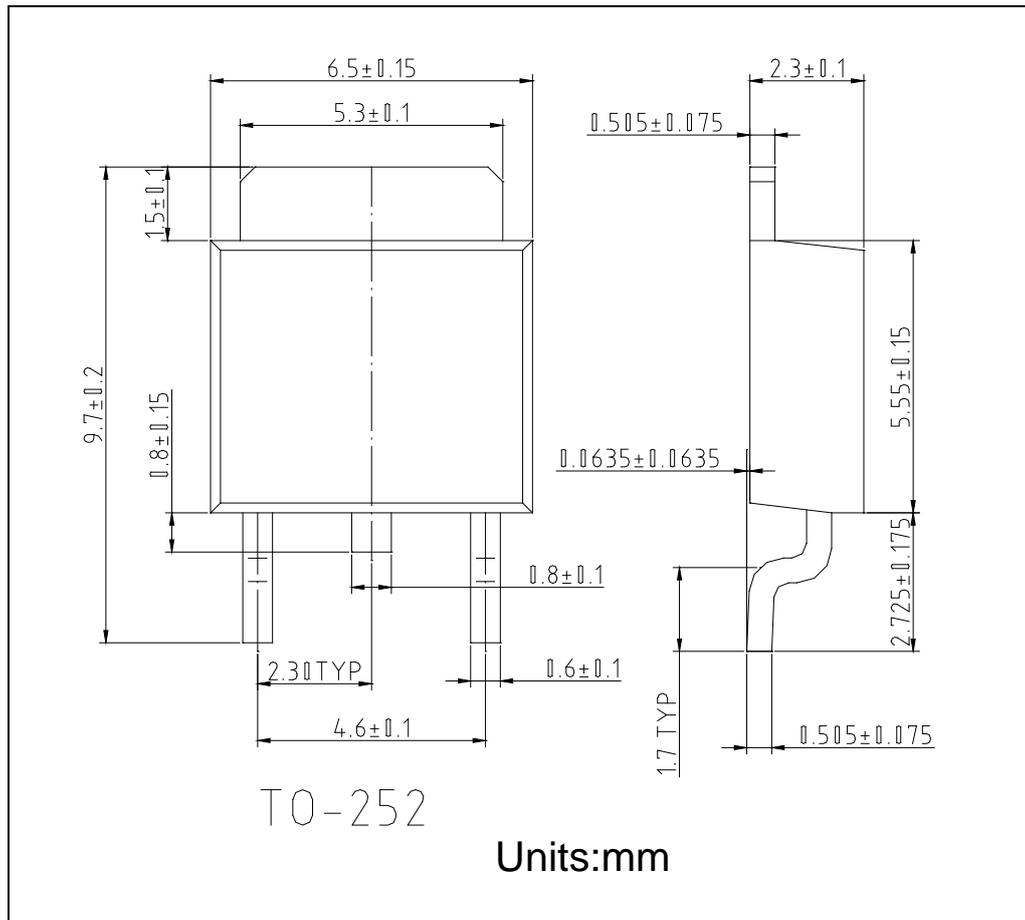


TO-252

- **General Description**

This device uses advanced trench technology to provide excellent RDS(ON) and low gate charge. This device is suitable for use as a load switch or in PWM applications.

- **Package Information**





SSC8220GT8

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

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	± 12	V
Drain Current	Continuous	I_D	70	A
	Pulsed		200	
Power Dissipation ⁽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	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	20	25	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	1.0	1.3	2.0	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 30\text{ A}$	--	3.5	6.0	mR
		$V_{GS} = 4.5\text{ V}, I_D = 20\text{ A}$	--	4.5	9.0	
		$V_{GS} = 3.3\text{ V}, I_D = 10\text{ A}$	--	6.0	11.0	
Forward Transconductance	G_{FS}	$V_{DS} = 5\text{ V}, I_D = 5\text{ A}$	--	7.3	--	S
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 10\text{ A}$	--	0.86	1.3	V
Input Capacitance	C_{ISS}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	2650	--	pF
Output Capacitance	C_{OSS}		--	910	--	
Reverse Transfer Capacitance	C_{RSS}		--	774	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = 15\text{ V}, R_L = 15\text{ R},$ $I_{DS} = 1\text{ A},$ $V_{GS} = 10\text{ V}, R_{GEN} = 6\text{ R}$	--	18		nS
Turn-Off Delay Time	$T_{D(OFF)}$		--	61		

Notes:

1. DUT is mounted on a 1in² FR-4 board with 2oz. Copper in a still air environment at 25°C, the current rating is based on the DC (<10s) test conditions.
2. Repetitive rating, pulse width limited by junction temperature. 300us Pulse Drain Current Tested.
3. Current limited by bond wire.

● Typical Performance Characteristics

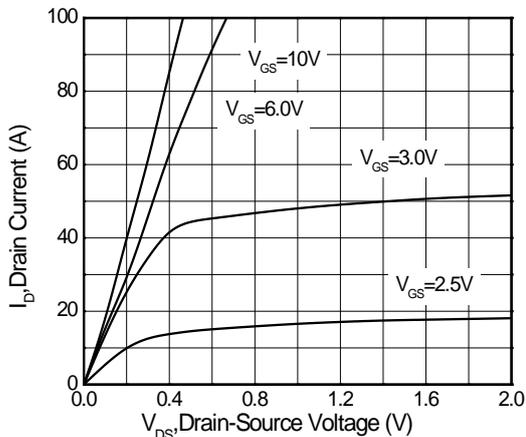


Fig1. Drain-Source Voltage vs. Drain Current

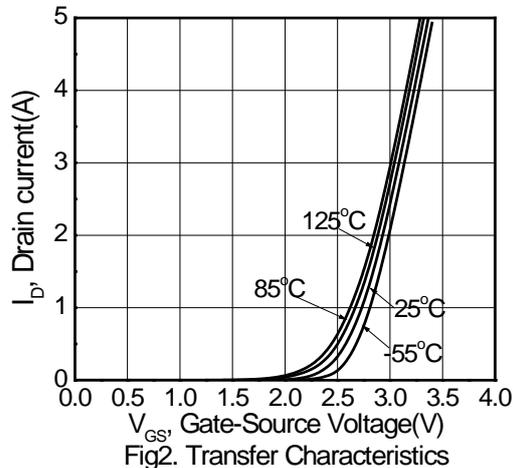


Fig2. Transfer Characteristics

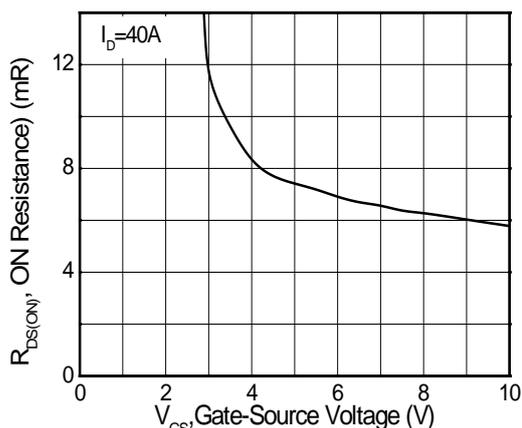


Fig3. Gate-Source Voltage vs. On-Resistance

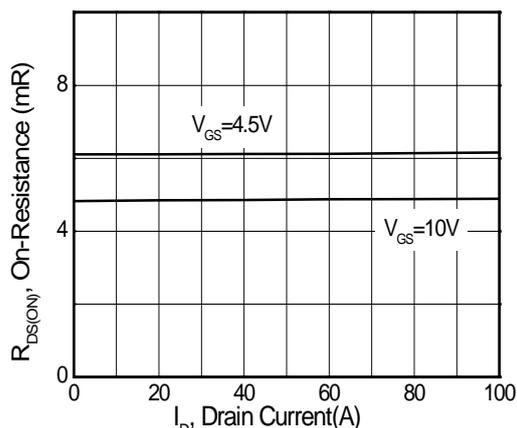


Fig4. Drain Current vs. On-Resistance

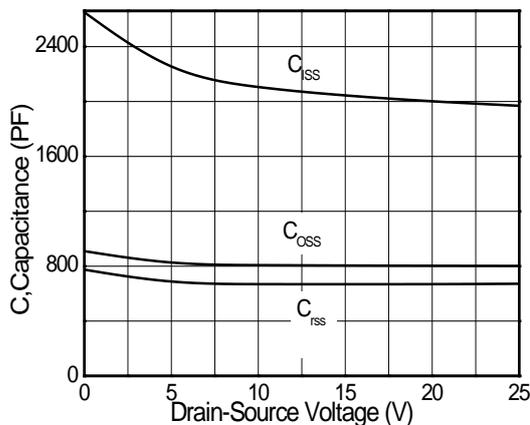


Fig5. Drain-Source Voltage vs. Capacitance

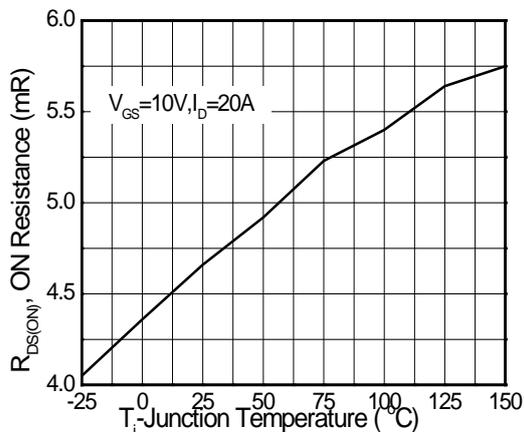


Fig6. Junction Temperature vs. On-Resistance

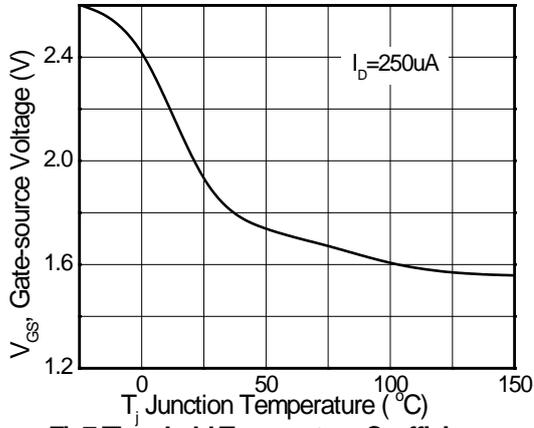


Fig7.Threshold Temperature Coefficiency

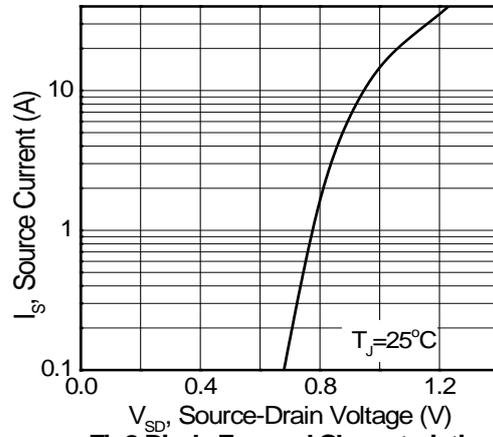


Fig8.Diode Forward Characteristics



SSC8220GT8

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