



SSC8162GT3

N-Channel Enhancement Mode MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID
60V	±20V	9mR@10V	60A
		13mR@4V5	

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin Configuration**

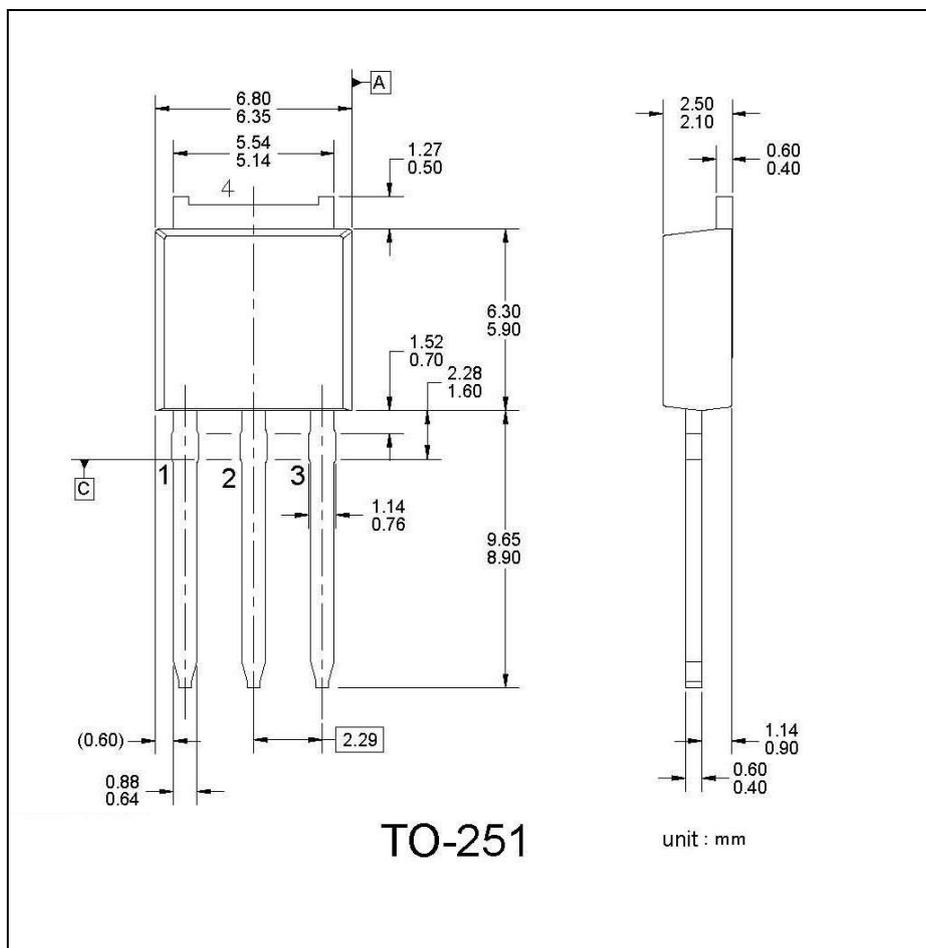
Top View



- **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**





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

Parameter	Symbol	N-channel	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current (Note 1)	I_D	60	A
Pulsed Drain Current (Note 2)	I_{DM}	240	A
Total Power Dissipation (Note 1)	P_D	32	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 specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$	60	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2	2.75	4	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}	$V_{DS} = 48\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 20\text{ A}$	--	9	12	mR
		$V_{GS} = 4.5\text{ V}, I_D = 10\text{ A}$	--	13	18	
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 30\text{ A}$	--	--	1.3	V
Input Capacitance	C_{ISS}	$V_{DS} = 25\text{ V}, V_{GS} = 0\text{ V},$ $f = 200\text{kHz}$	--	2960	--	pF
Output Capacitance	C_{OSS}		--	236	--	
Reverse Transfer Capacitance	C_{RSS}		--	160	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = 30\text{ V}, R_L = 30\text{ R},$	--	20	--	ns
Turn-Off Delay Time	$T_{D(OFF)}$	$V_{GS} = 10\text{ V}, V_{GEN} = 10\text{ V}$	--	69	--	

Note :

1. DUT is mounted on a 1in² FR-4 board with 2oz. Copper in a still air environment at 25 $^\circ\text{C}$, the current rating is based on the DC (continuous) test conditions.
2. Repetitive rating, pulse width limited by junction temperature.



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3. Typical Performance Characteristics

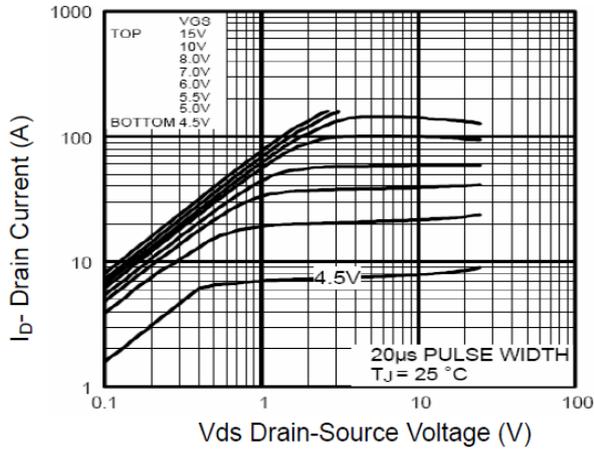


Figure 1 Output Characteristics

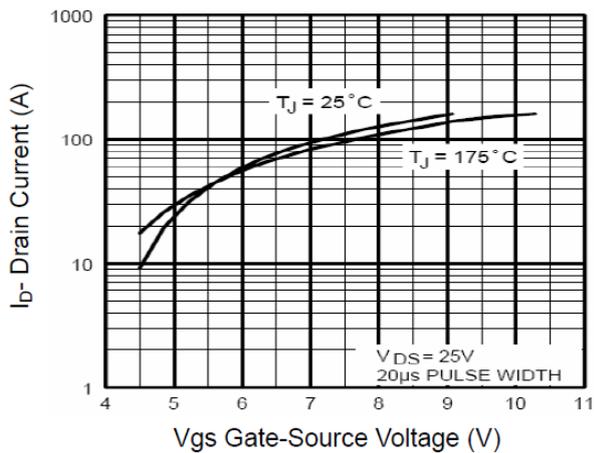


Figure 2 Transfer Characteristics

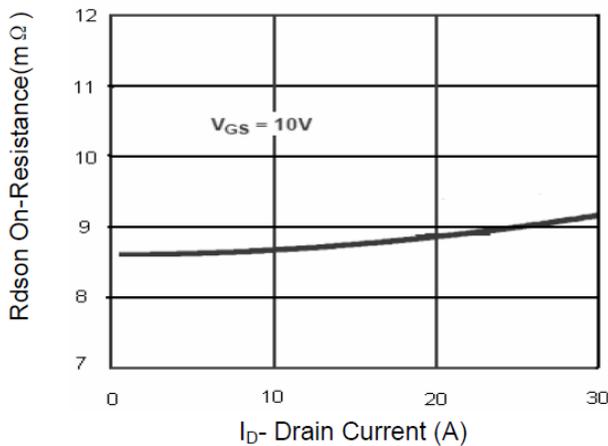


Figure 3 Rds(on)- Drain Current

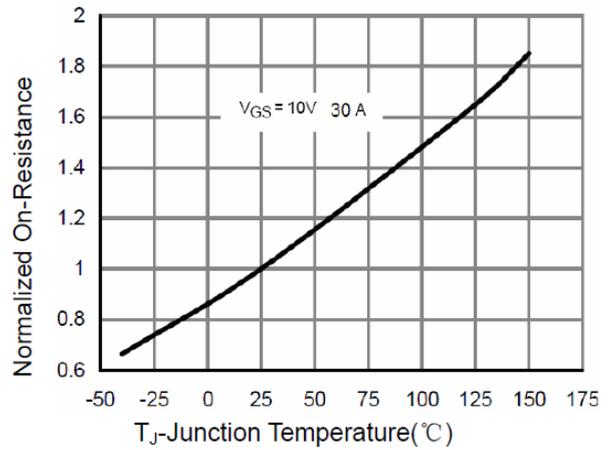


Figure 4 Rds(on)-Junction Temperature

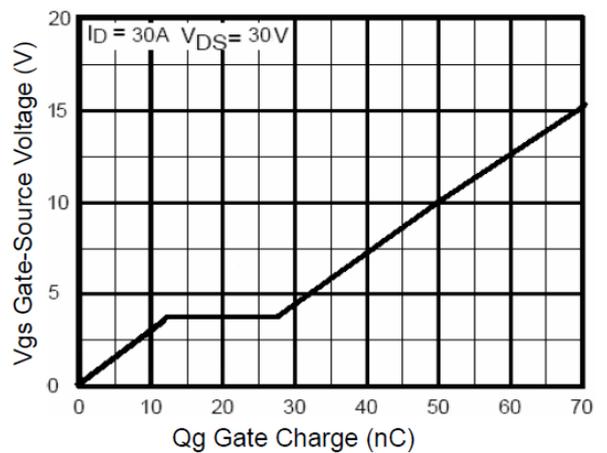


Figure 5 Gate Charge

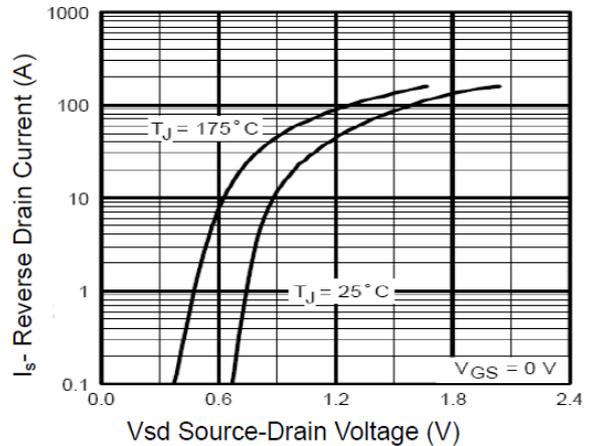


Figure 6 Source- Drain Diode Forward

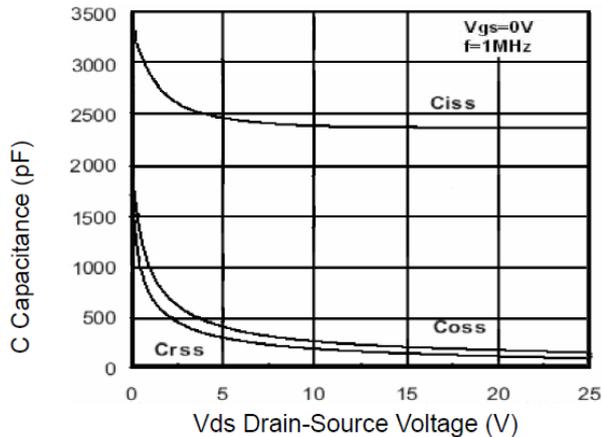


Figure 7 Capacitance vs Vds

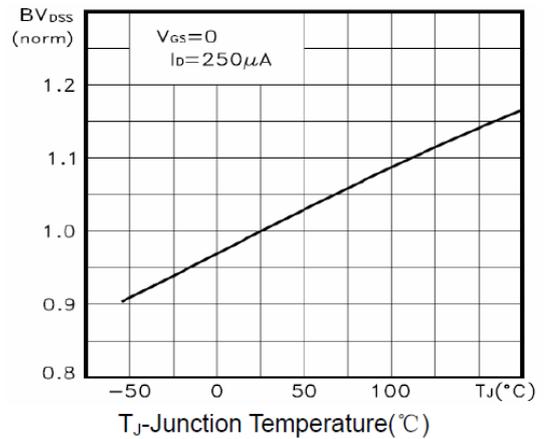


Figure 9 BV_{DSS} vs Junction Temperature

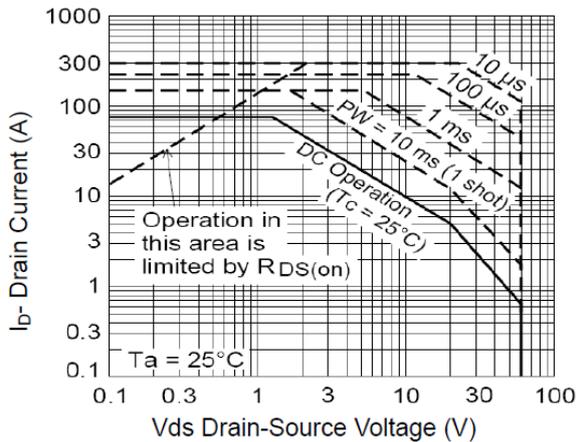


Figure 8 Safe Operation Area

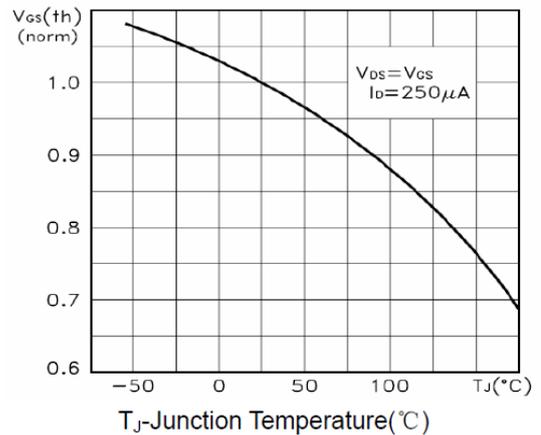


Figure 10 $V_{GS(th)}$ vs Junction Temperature

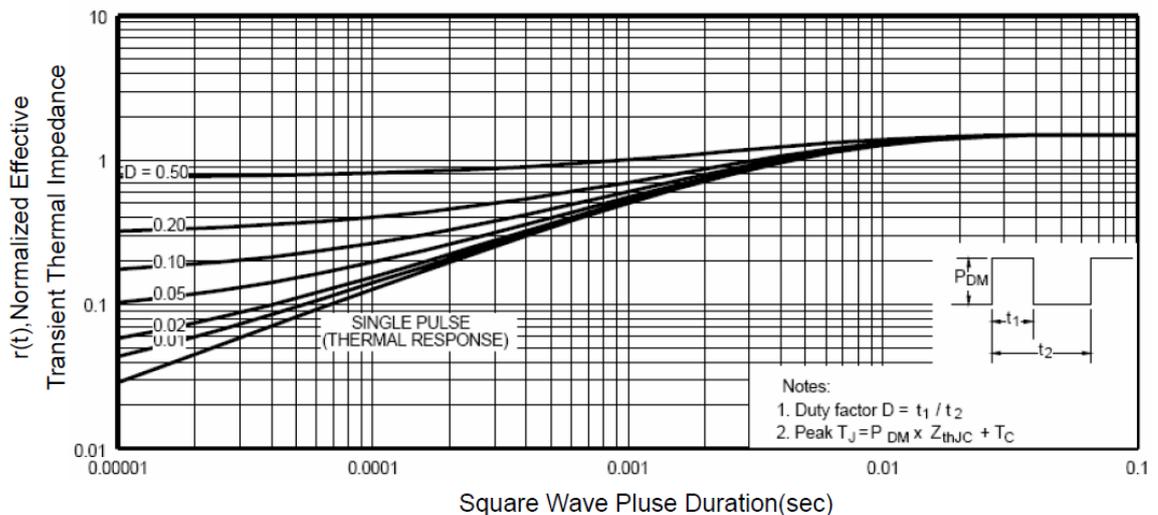


Figure 11 Normalized Maximum Transient Thermal Impedance



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