SSC8124GT3

N-Channel Enhancement Mode MOSFET

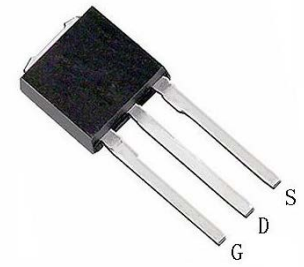
- **Features**

VDS	VGS	RDSon TYP	ID
20V	±8V	22mR@4V5 25mR@2V5 32mR@1V8	10A

- **Applications**
  - Load Switch
  - Portable Devices
  - DCDC Conversion

- **Pin Configuration**

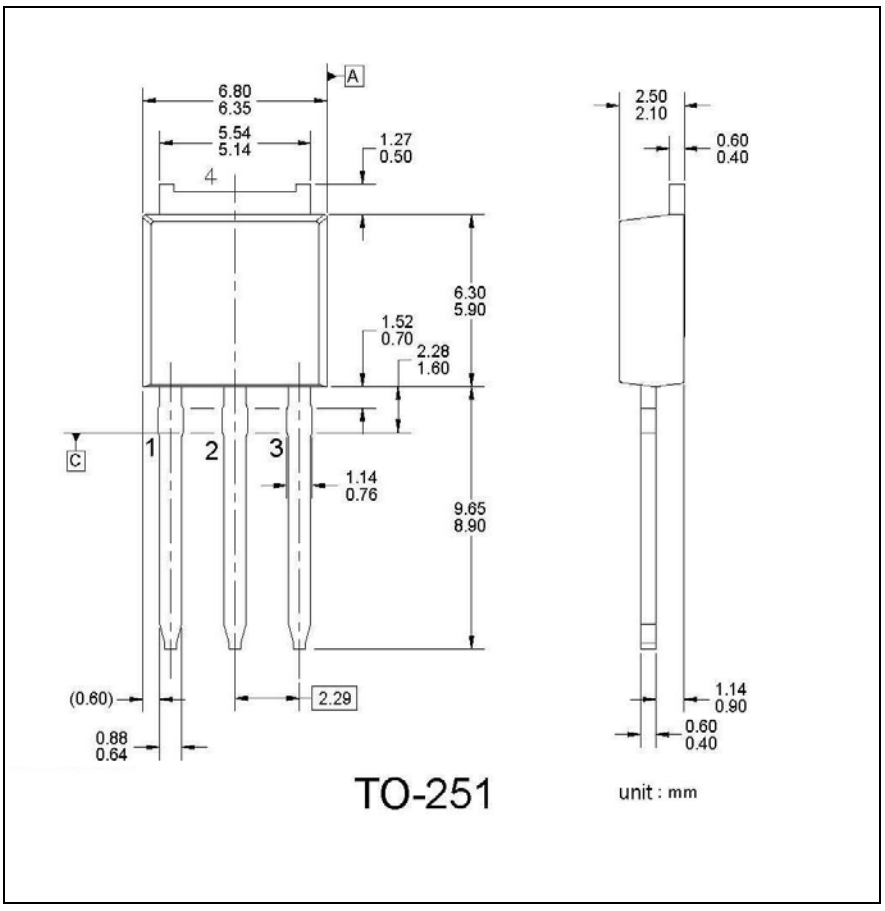
Top View



- **General Description**

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package. Excellent thermal and electrical capabilities.

- **Package Information**



- **Absolute Maximum Ratings** @ T_A = 25°C unless otherwise noted

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DSS}	20	V
Gate-Source Voltage		V_{GSS}	±8	V
Drain Current	Continuous	I_D	10	A
	Pulsed		25	
Power Dissipation(1)		P_D	2.5	W
Operating and Storage Junction Temperature Range		T_J, T_{STG}	-55 to +150	°C

- **Electrical Characteristics** @ T_A = 25°C unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 10uA	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20 V, V_{GS} = 0 V	--	--	1	uA
Gate–Body Leakage	I_{GSS}	V_{GS} = ±8 V, V_{DS} = 0 V	--	--	±100	nA
ON CHARACTERISTICS(2)						
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 50uA	0.4	0.6	1.0	V
Static Drain–Source On-Resistance	$R_{DS(ON)}$	V_{GS} = 4.5 V, I_D = 5 A	--	22	31	mR
		V_{GS} = 2.5 V, I_D = 3.5 A	--	25	37	
		V_{GS} = 1.8 V, I_D = 2.8 A	--	32	47	
Forward Transconductance	G_{FS}	V_{DS} = 5 V, I_D = 3.6 A	2	7	14	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	V_{DS} = 10 V, V_{GS} = 0 V, f = 1.0 MHz	--	469	--	pF
Output Capacitance	C_{OSS}		--	81	--	
Reverse Transfer Capacitance	C_{RSS}		--	49	--	
SWITCHING CHARACTERISTICS						
Turn–On Delay Time	$T_{D(ON)}$	V_{DD} = 5 V, I_D = 3.6A, V_{GS} =4.5 V,R_{GEN}=6Ω	--	--	15	nS
Turn–On Rise Time	T_R		--	--	80	
Turn–Off Delay Tim	$T_{D(OFF)}$		--	--	60	
Turn–Off Fall Time	T_F		--	--	25	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage(2)	V_{SD}	V_{GS} = 0 V, I_S = 1.1 A	0.6	0.8	1.15	V

Notes :

1. Surface Mounted on FR4 Board, t < 10 sec.

   Pulse Test: Pulse Width < 300μs, Duty Cycle < 2%

2.

- **Typical Performance Characteristics**

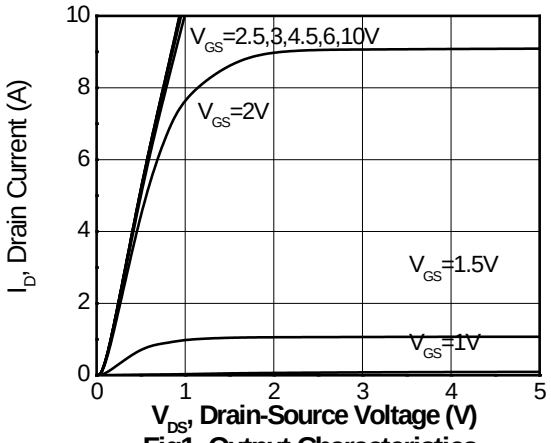


Fig1. Output Characteristics

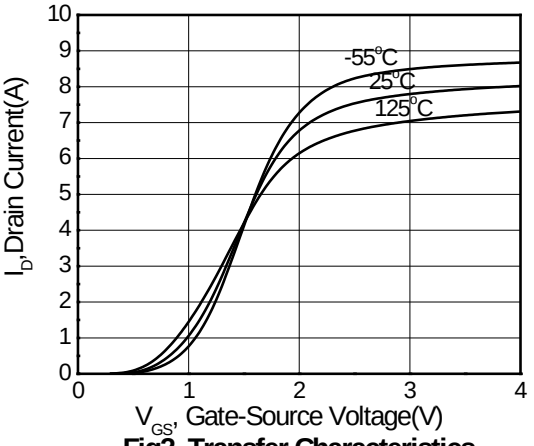


Fig2. Transfer Characteristics

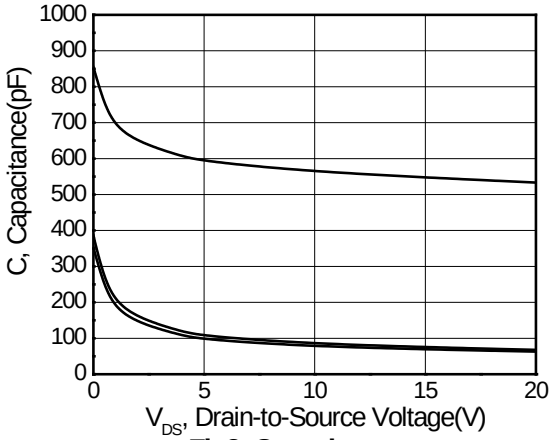


Fig3. Capacitance

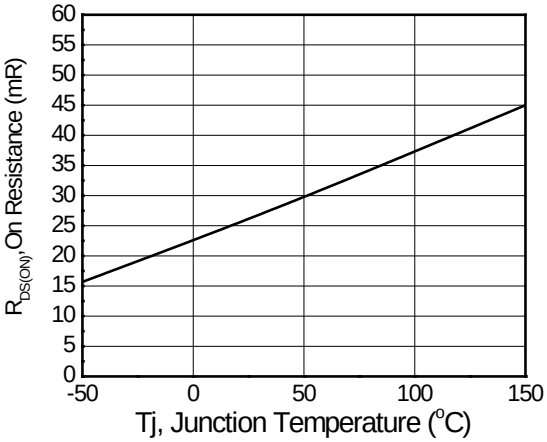


Fig4. On Resistance Vs. Temperature

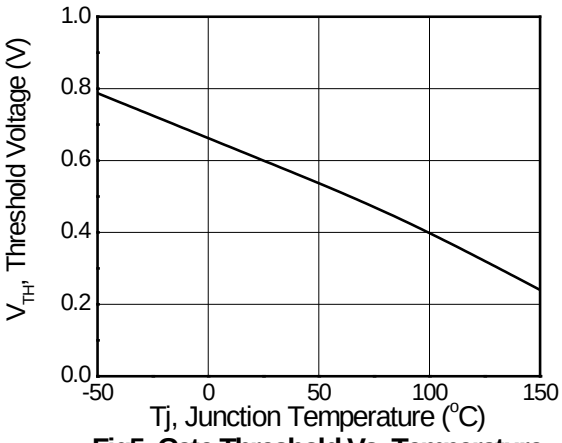


Fig5. Gate Threshold Vs. Temperature

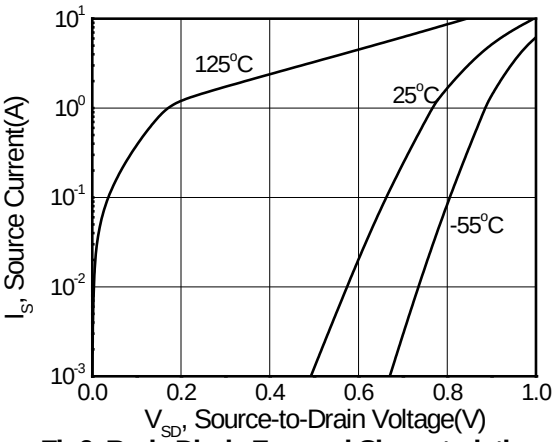


Fig6. Body Diode Forward Characteristics

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