

N-Channel Enhancement Mode MOSFET

- **Features**

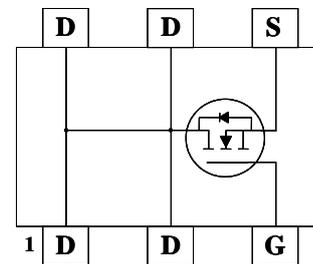
VDS	VGS	RDSon TYP	ID
20V	±8V	22mR@4V5 25mR@2V5 32mR@1V8	5.6A

- **Applications**

- Load Switch
- Portable Devices
- DCDC Conversion

- **Pin configuration**

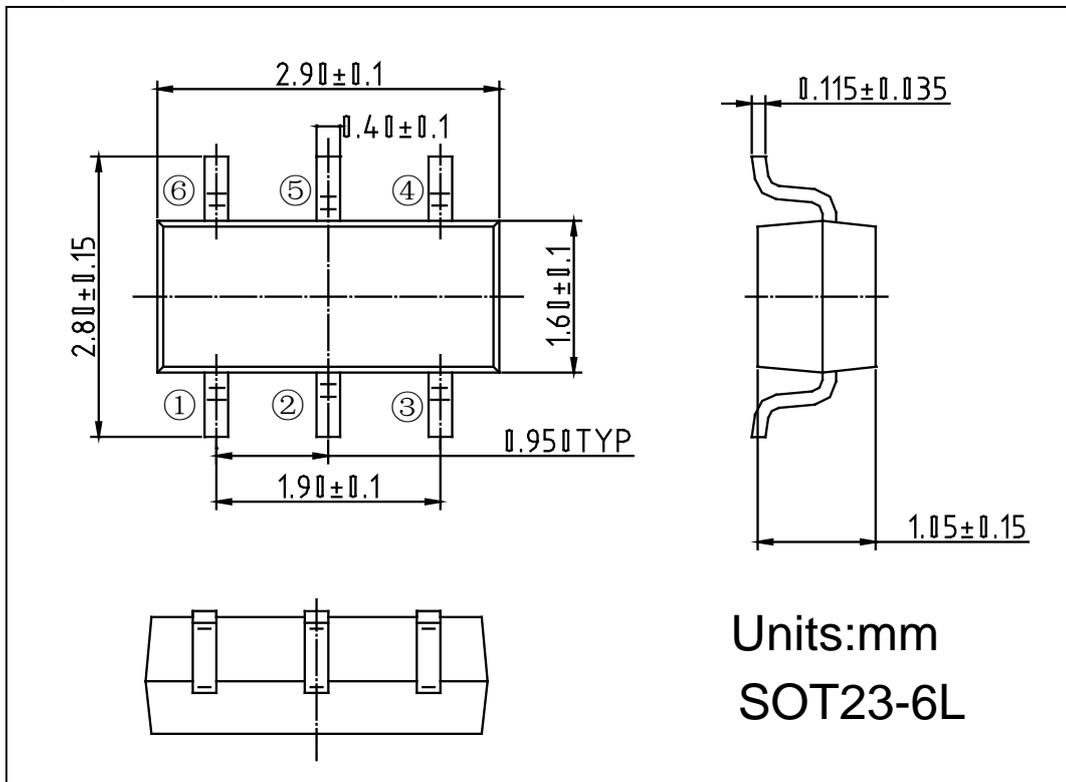
Top View



- **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**





SSC8124GSB

● **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}	± 8	V
Drain Current	I_D	Continuous	5.6
		Pulsed	18
Power Dissipation ⁽¹⁾	P_D	1000	mW
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

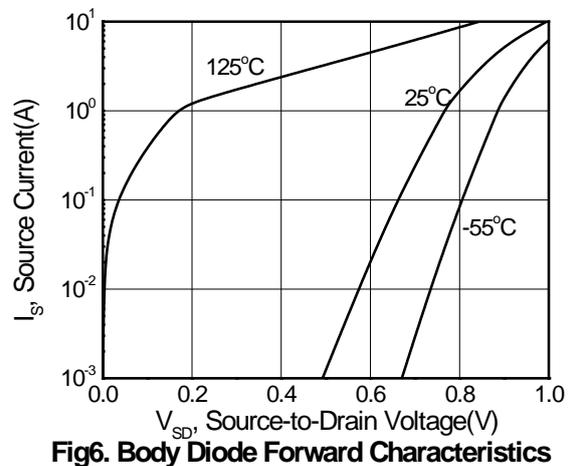
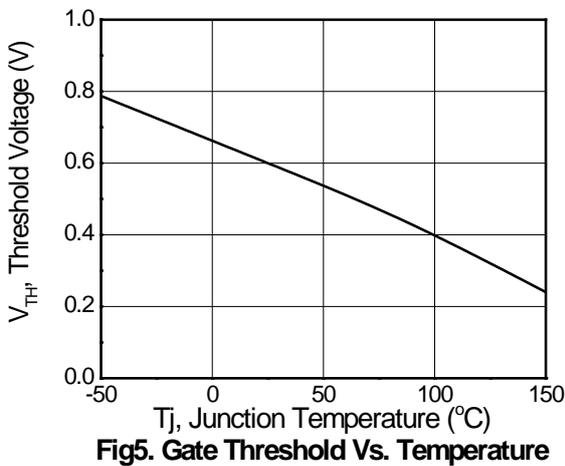
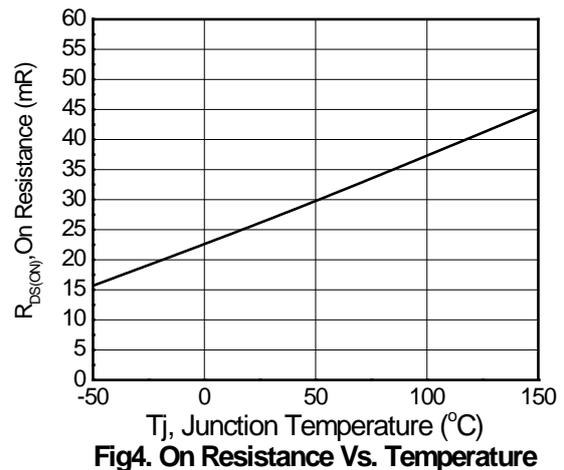
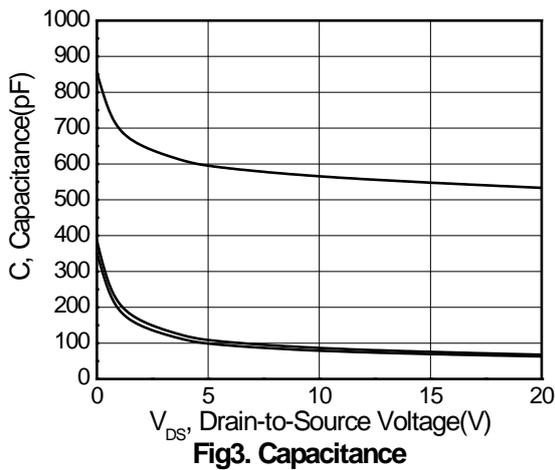
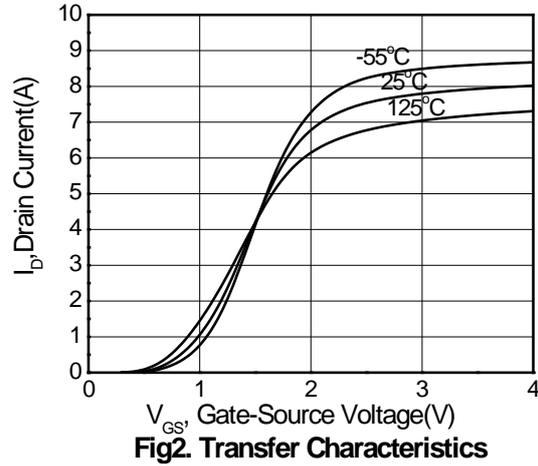
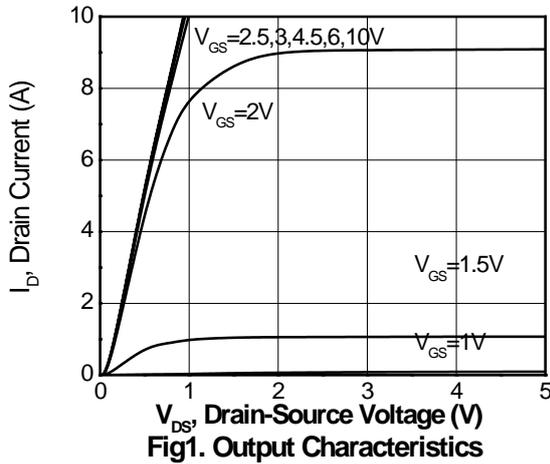
● **Electrical Characteristics** @ $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 10\mu\text{A}$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 8\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
ON CHARACTERISTICS⁽²⁾						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 50\mu\text{A}$	0.4	0.6	0.85	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 4.5\text{ V}, I_D = 5\text{ A}$	--	22	31	mR
		$V_{GS} = 2.5\text{ V}, I_D = 3.5\text{ A}$	--	25	37	
		$V_{GS} = 1.8\text{ V}, I_D = 2.8\text{ A}$	--	32	47	
Forward Transconductance	G_{FS}	$V_{DS} = 5\text{ V}, I_D = 3.6\text{ A}$	2	7	14	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	469	--	pF
Output Capacitance	C_{OSS}		--	81	--	
Reverse Transfer Capacitance	C_{RSS}		--	49	--	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$T_{D(ON)}$	$V_{DD} = 5\text{ V}, I_D = 3.6\text{ A},$ $V_{GS} = 4.5\text{ V}, R_{GEN} = 6\text{ R}$	--	--	15	nS
Turn-On Rise Time	T_R		--	--	80	
Turn-Off Delay Time	$T_{D(OFF)}$		--	--	60	
Turn-Off Fall Time	T_F		--	--	25	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage ⁽²⁾	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1.1\text{ A}$	0.6	0.8	1.15	V

Notes :

- Surface Mounted on FR4 Board, $t < 10\text{ sec}$.
Pulse Test: Pulse Width $< 300\mu\text{s}$, Duty Cycle $< 2\%$
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● **Typical Performance Characteristics**





SSC8124GSB

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