

N-Channel Enhancement Mode MOSFET

● Features

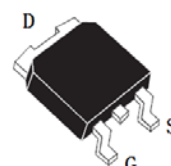
VDS	VGS	RDSon TYP	ID
20V	±8V	22mR@4V5 25mR@2V5 32mR@1V8	9A

● Applications

- Load Switch
- Portable Devices
- DCDC Conversion

● Pin Configuration

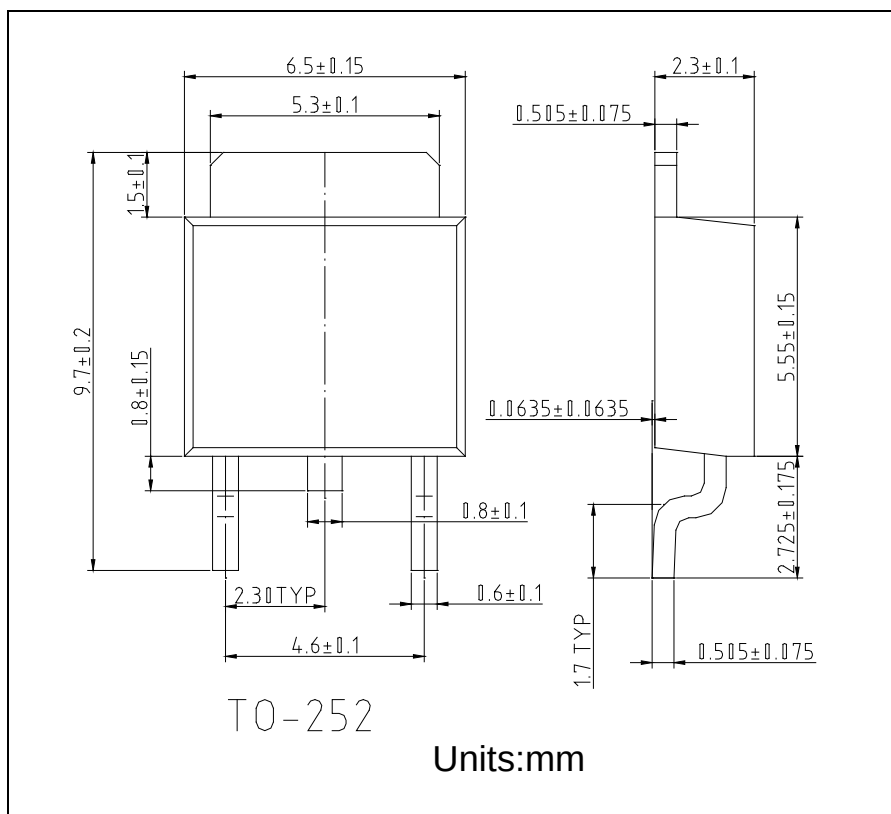
Top View



● 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





SSC8124GT8

● **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	Continuous	I_{D}	9	A
	Pulsed		25	
Power Dissipation ⁽¹⁾		P_{D}	2.5	W
Operating and Storage Junction Temperature Range		$T_{\text{J}}, T_{\text{STG}}$	-55 to +150	$^\circ\text{C}$

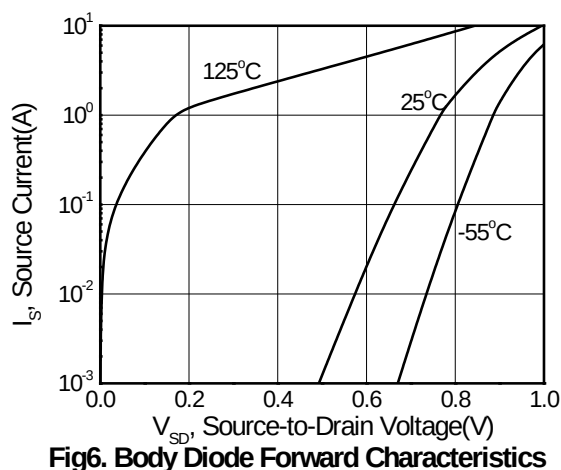
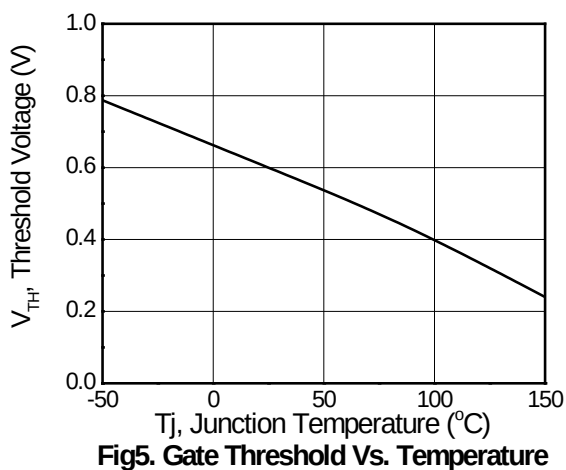
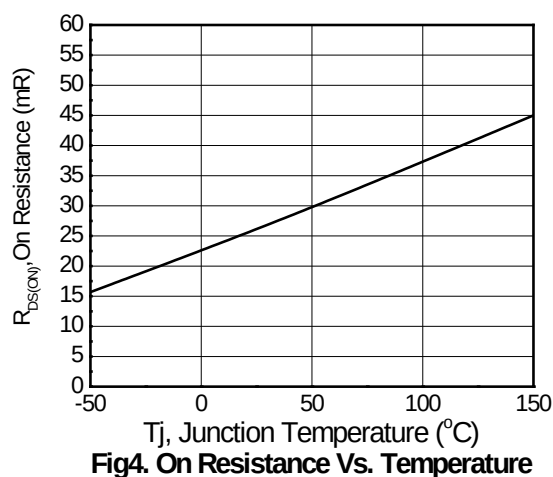
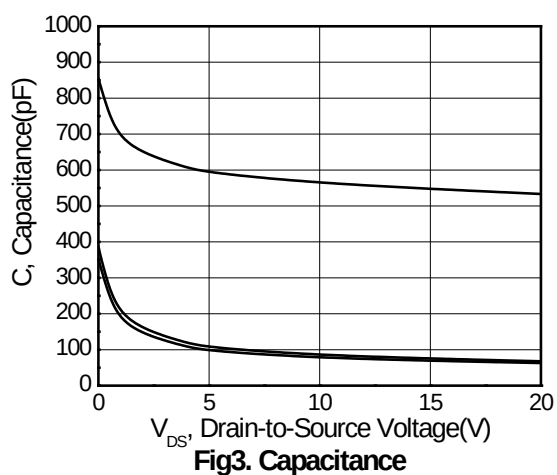
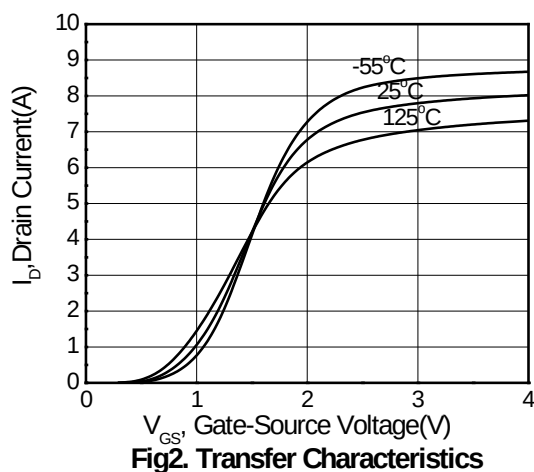
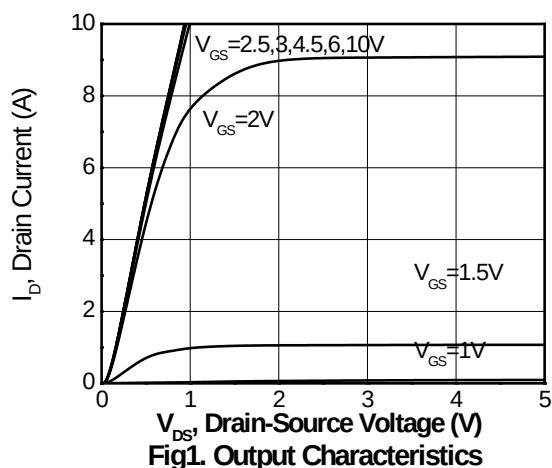
● **Electrical Characteristics** @ $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain–Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 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 = 250uA	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} = 6R	--	--	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, $t < 10\text{ sec.}$
Pulse Test: Pulse Width $< 300\mu\text{s}$, Duty Cycle $< 2\%$
- 2.

● Typical Performance Characteristics





SSC8124GT8

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