SSC8522GSG

Dual N-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
20V	±12V	210mΩ@4.5V	0.9A
		240mΩ@2.5V	
		290mΩ@1.8V	

➢ Description

This device is N-Channel enhancement MOSFET. Uses Trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

➢ Applications

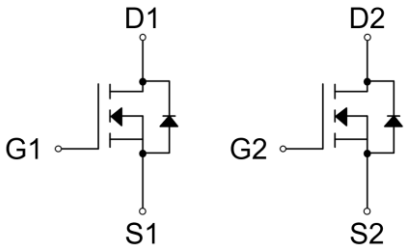
- Motor Drive Control
- Portable Devices
- DCDC Conversion
- Power Supplies

➢ Ordering Information

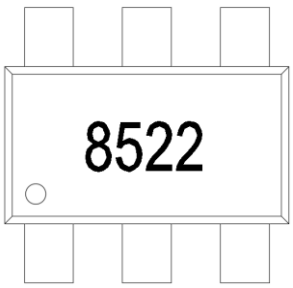
Device	Package	Shipping
SSC8522GSG	SOT-363	3000/Reel

➢ Pin Configuration

SOT-363 (Top View)



Pin Configuration



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➢ Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		20	V
V_{GSS}	Gate-to-Source Voltage		±12	V
I_D	Continuous Drain Current [a]	T_A=25℃	0.9	A
		T_A=100℃	0.5	
I_{DM}	Pulsed Drain Current [b]		3.6	A
P_D	Power Dissipation [a]	T_A=25℃	0.27	W
		T_A=100℃	0.11	
T_J	Operation junction temperature		-55~150	℃
T_{STG}	Storage temperature range		-55~150	

➢ Thermal Resistance Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	459	℃/W

Note:

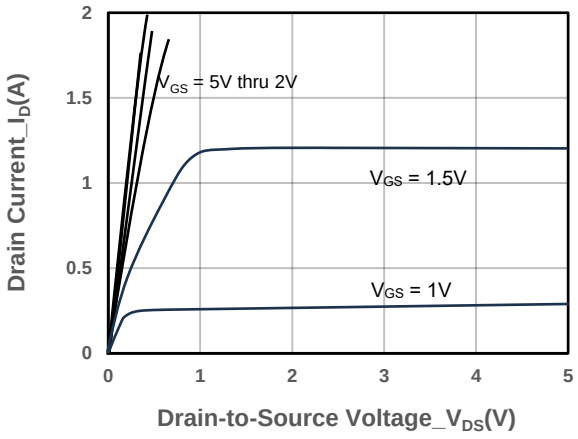
a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t≤10s thermal resistance rating.

b. Repetitive rating, pulse width limited by junction temperature.

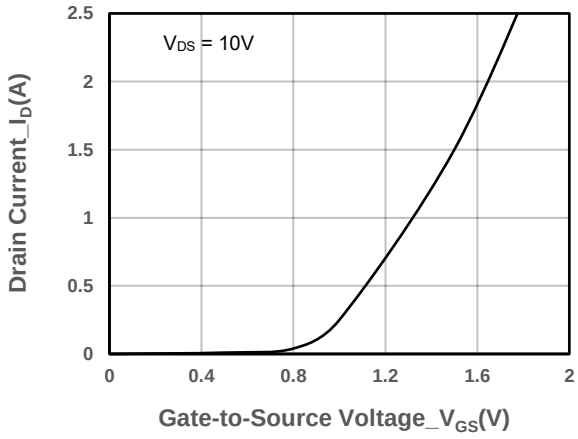
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250uA	0.35	0.65	1	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 4.5V, I_D = 0.5A		210	380	mΩ
		V_{GS} = 2.5V, I_D = 0.5A		240	450	mΩ
		V_{GS} = 1.8V, I_D = 0.35A		290	800	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 20V, V_{GS} = 0V			1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±10	uA
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = 0.15A			1.2	V
Input Capacitance	C_{ISS}	V_{DS} = 10V, V_{GS} = 0V, f = 1MHz		63		pF
Output Capacitance	C_{OSS}			37		
Reverse Transfer Capacitance	C_{RSS}			22		
Total Gate Charge	Q_G	V_{GS} = 4.5V, V_{DS} = 10V, I_D = 0.5A		1.3		nC
Gate to Source Charge	Q_{GS}			0.28		
Gate to Drain Charge	Q_{GD}			0.23		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = 4.5V, V_{DS} = 10V, I_D = 0.5A, R_G = 6Ω		4.1		ns
Rise Time	T_r			2.7		
Turn-off Delay Time	$T_{D(OFF)}$			13.4		
Fall Time	T_f			5.5		
Diode Recovery Time	T_{rr}	I_F=0.5A, di/dt=100A/us		14		ns
Diode Recovery Charge	Q_{rr}	I_F=0.5A, di/dt=100A/us		10		nC

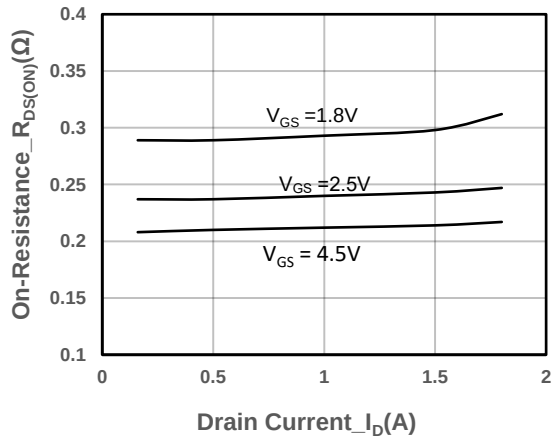
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



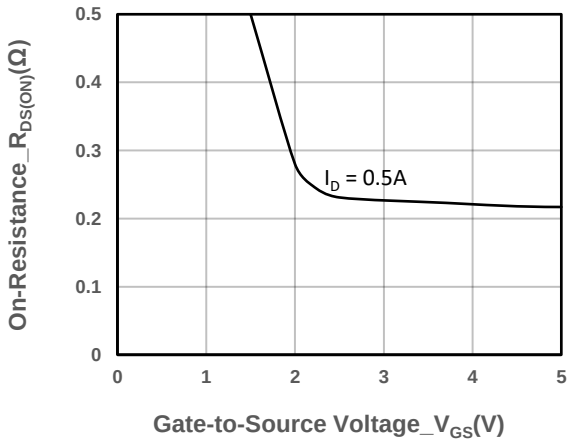
Output Characteristics



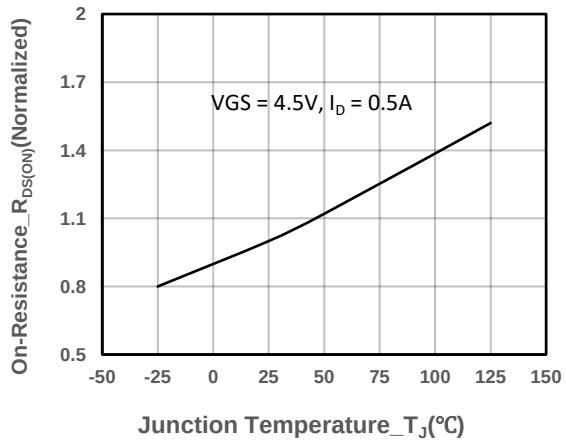
Transfer Characteristics



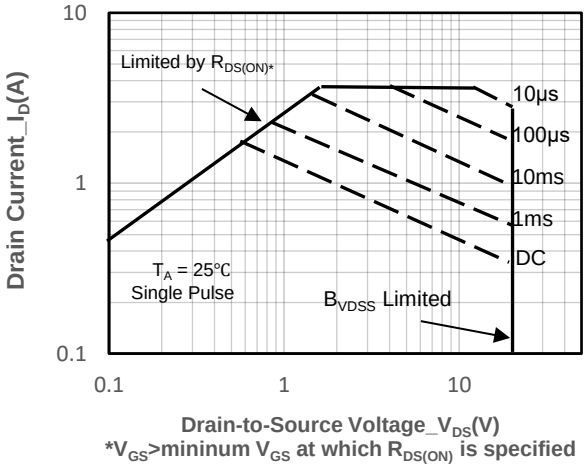
On-Resistance vs. Drain Current and Gate Voltag



On-Resistance vs. Gate-to-Source Voltage



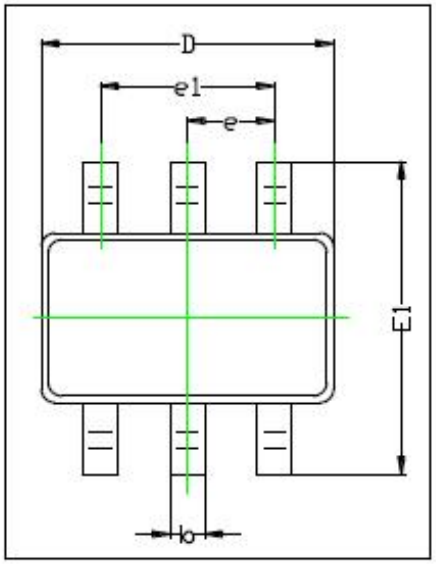
On-Resistance vs. Junction Temperature



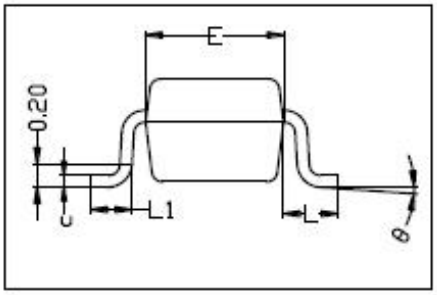
Safe Operating Area vs. Junction-to-Ambient

➢ Package Information

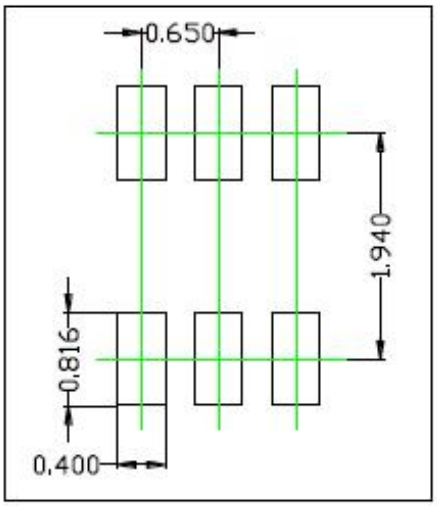
TOP VIEW



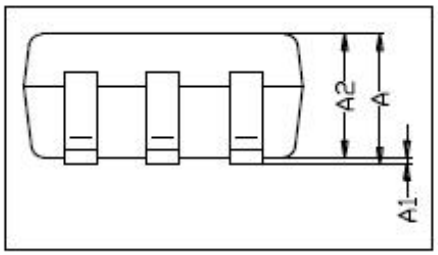
SIDE VIEW



SOLDRING PATTERN



FRONT VIEW



SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.900	1.000
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.300
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.450
θ	0°	8°

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