SSC8222GT8

N-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
20V	±12V	5.5mR@4.5V	55A
		7.6mR@2.5V	

➢ Description

This device is N-Channel enhancement MOSFET. Uses advanced 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. 100%UIS+DVDS+Rg Test.

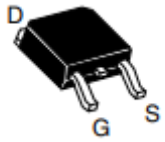
➢ Applications

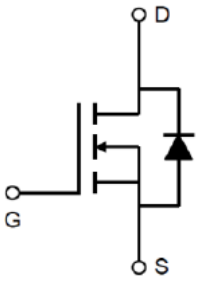
- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

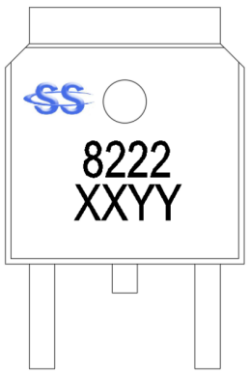
➢ Ordering Information

Device	Package	Shipping
SSC8222GT8	TO-252	2500/Reel

➢ Pin Configuration







Marking

（XX: Product Year/YY: Product Week）

➢ 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 [d]	T_C=25℃	55	A
		T_C=100℃	28	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	20	A
		T_A=70℃	15	
I_{DM}	Pulsed Drain Current [b]		220	A
P_D	Power Dissipation [c]	T_C=25℃	30	W
		T_C=100℃	12	
P_{DSM}	Power Dissipation [a]	T_A=25℃	4.2	W
		T_A=70℃	2.7	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		22	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		120	mJ
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]	30	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	4.1	

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.

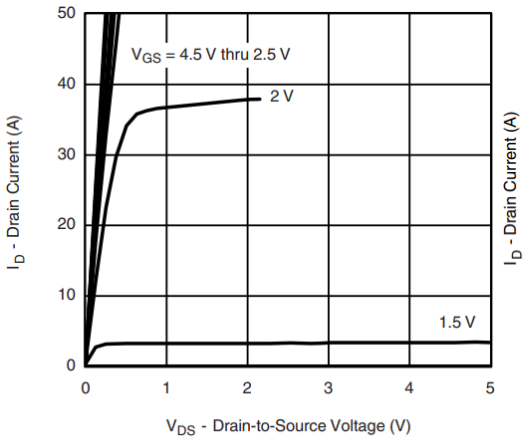
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

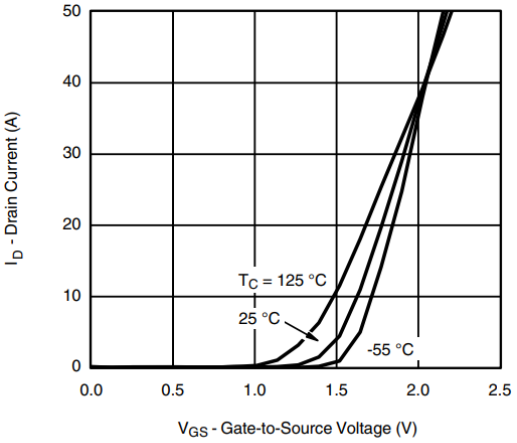
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	20			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS, ID=250uA	0.4	0.55	0.9	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=4.5V, ID=20A		5.5	7.4	mR
		VGS=2.5V, ID=10A		7.6	10	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=16V, VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±12V, VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=5V, ID=10A		25		S
V_{SD}	Forward Voltage	VGS=0V, IS=10A		0.8	1.3	V
Rg	Gate Resistance	VGS=0V, f=1MHz		2	3	R
Ciss	Input Capacitance	VDS=10V, VGS=0V, f=1MHz		1420		pF
Coss	Output Capacitance			240		
Crss	Reverse Capacitance			210		
$T_{D(ON)}$	Turn-on delay time	VGS=4.5V, RL=1R VDS=10V, RG=1R		11		ns
Tr	Rise time			22		
$T_{D(OFF)}$	Turn-off delay time			35		
Tf	Fall time			17		
Q_G	Total Gate Charge	VGS=4.5V, VDS=10V ID=10A		13		nC
Q_{GS}	Gate Source Charge			5		
Q_{GD}	Gate Drain Charge			6		
Trr	Diode Recovery Time	IF=10A, di/dt=100A/us		11		ns
Qrr	Diode Recovery Charge	IF=10A, di/dt=100A/us		15		nC

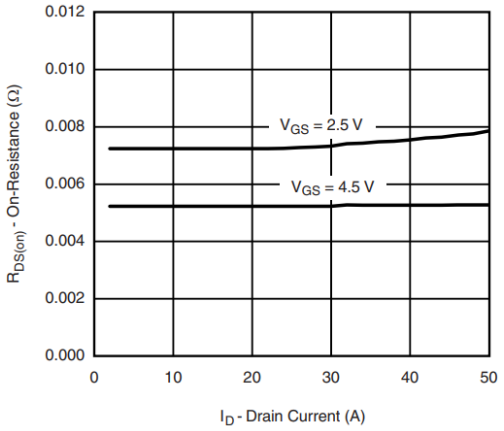
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



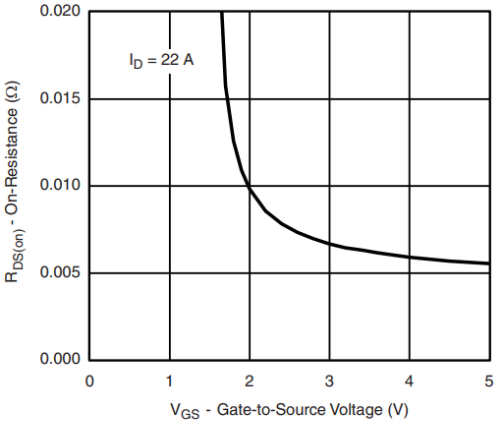
Output Characteristics



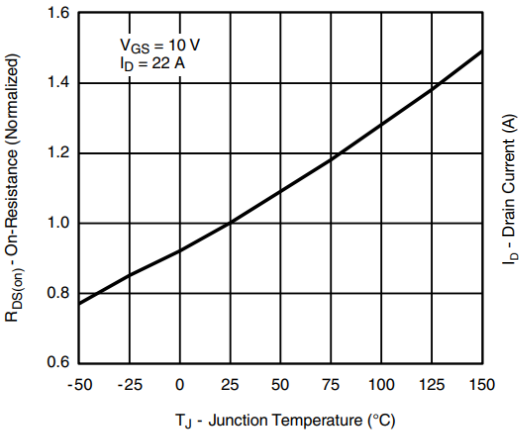
Transfer Characteristics



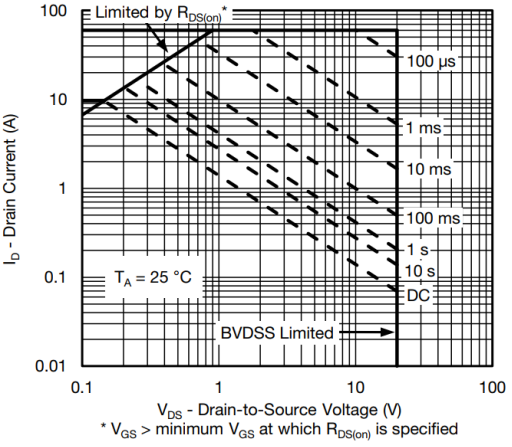
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

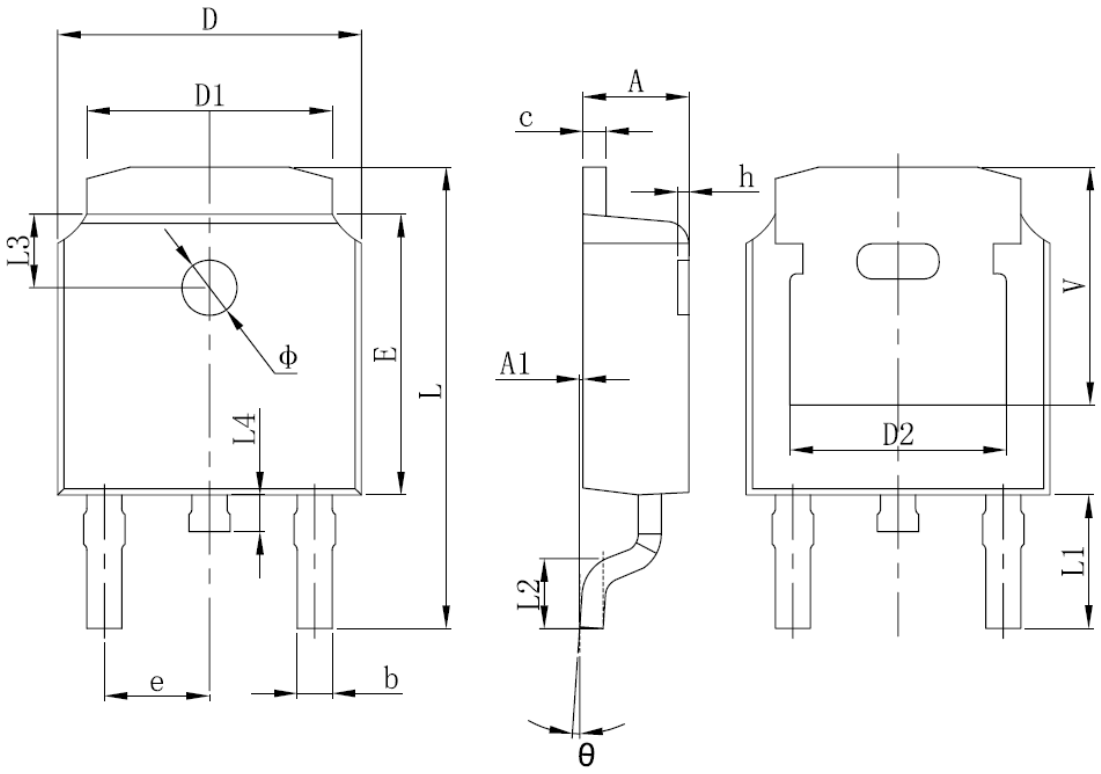


On-Resistance vs. Junction Temperature



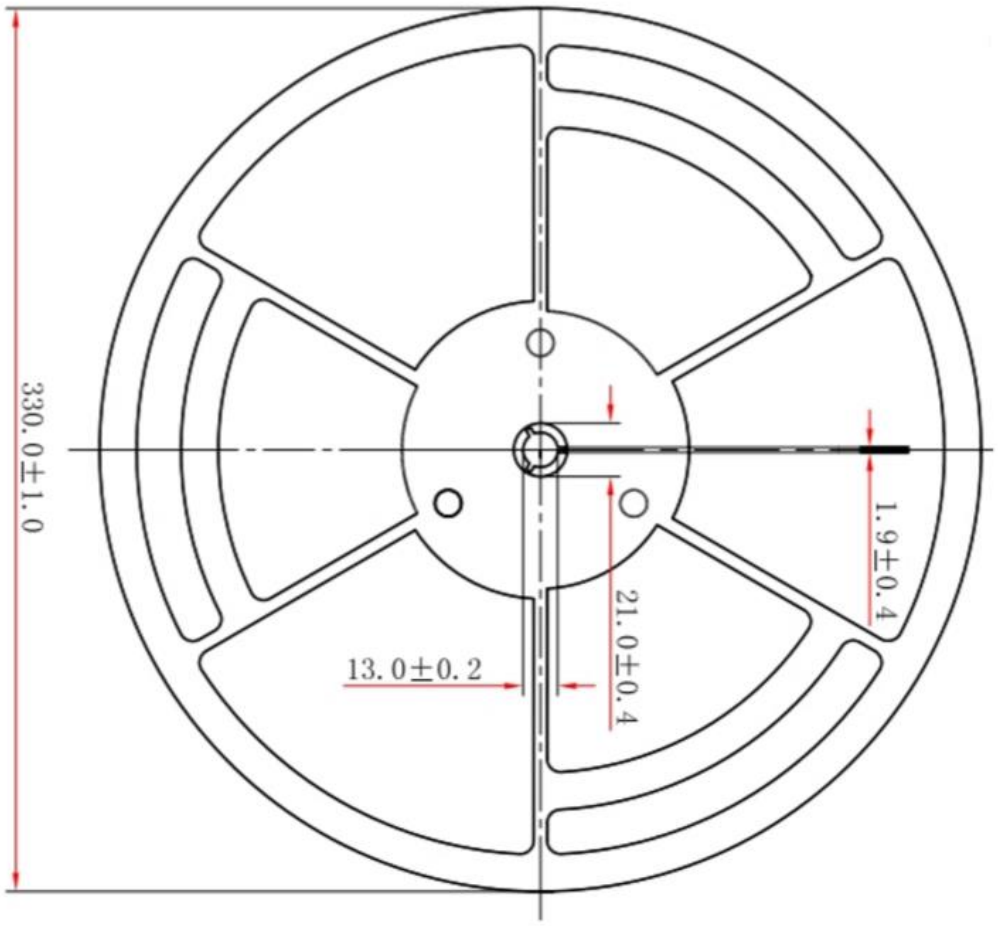
Safe Operating Area, Junction-to-Ambient

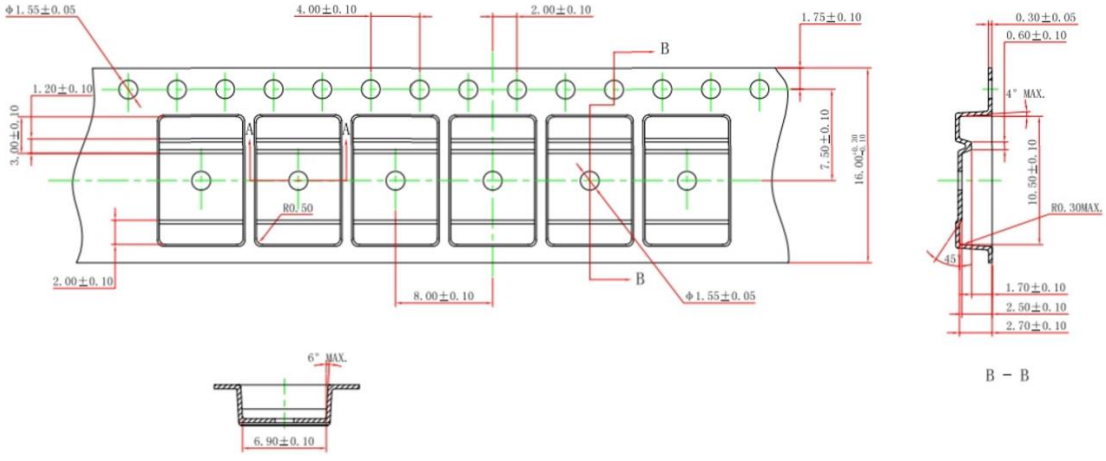
➢ Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

➢ Tape and Reel





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