SSC80A0GT4

N-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
100V	±25V	10mR@10V	80A

➢ 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.

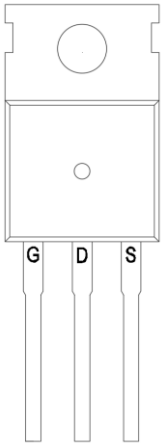
➢ Applications

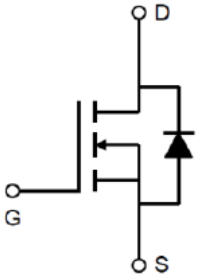
- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

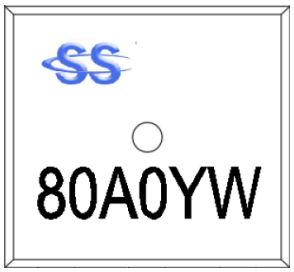
➢ Ordering Information

Device	Package	Shipping
SSC80A0GT4	TO-220-3L	50/Tube

➢ Pin configuration







Marking

（Y:Product Year/W: Product Week）

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

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		100	V
V_{GSS}	Gate-to-Source Voltage		±25	V
I_D	Continuous Drain Current [d]	T_C=25℃	80	A
		T_C=100℃	35	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	30	A
		T_A=70℃	17	
I_{DM}	Pulsed Drain Current [b]		320	A
P_D	Power Dissipation [c]	T_C=25℃	104	W
		T_C=100℃	41	
P_{DSM}	Power Dissipation [a]	T_A=25℃	15	W
		T_A=70℃	10	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		40	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		400	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]	8	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.2	

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.

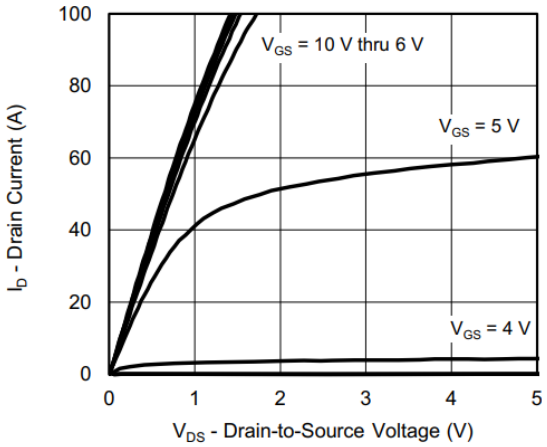
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

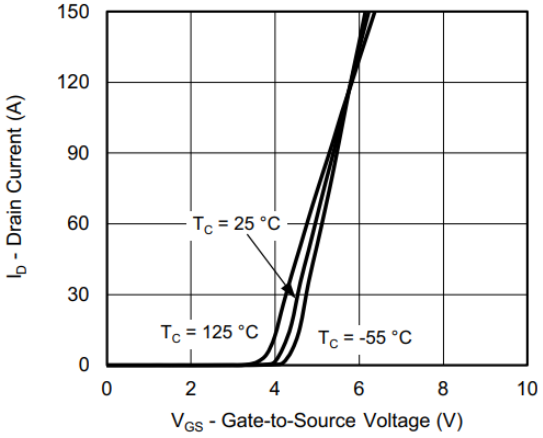
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V ,ID=250uA	100			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS ,ID=250uA	2	3	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=30A		10	13	mR
I_{DSS}	Zero Gate Voltage Drain Current	VDS=100V ,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±25V ,VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=20V ,ID=10A		24		S
V_{SD}	Forward Voltage	VGS=0V , IS=10A		0.77	1.3	V
Ciss	Input Capacitance	VDS=50V , VGS=0V, f=1MHz		5200		pF
Coss	Output Capacitance			1100		
Crss	Reverse Transfer Capacitance			105		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, RL=2R VDS=50V , RG=1R		26		ns
Tr	Rise time			22		
$T_{D(OFF)}$	Turn-off delay time			27		
Tf	Fall time			9		
Q_G	Total Gate Charge	VGS=10V, VDS=50V ID=30A		71		nC
Q_{GS}	Gate Source Charge			15		
Q_{GD}	Gate Drain Charge			13		
Trr	Diode Recovery Time	IF=30A , di/dt=100A/us		90		ns
Qrr	Diode Recovery Charge	IF=30A , di/dt=100A/us		145		nC

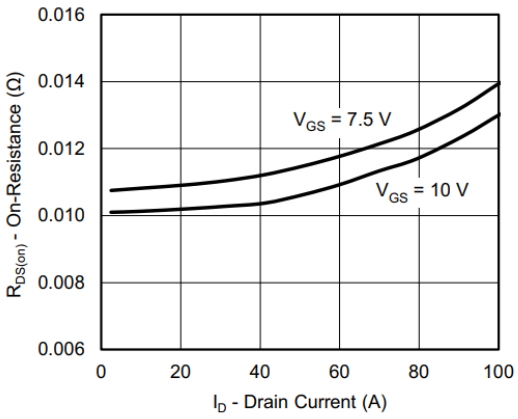
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



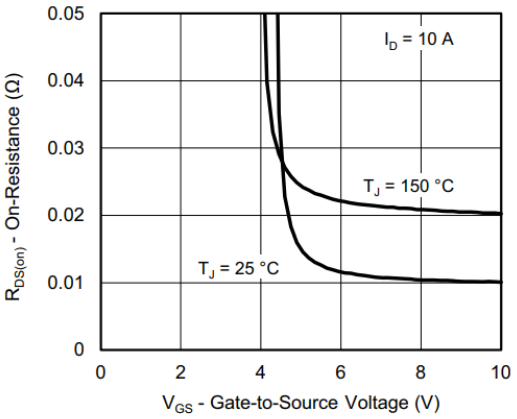
Output Characteristics



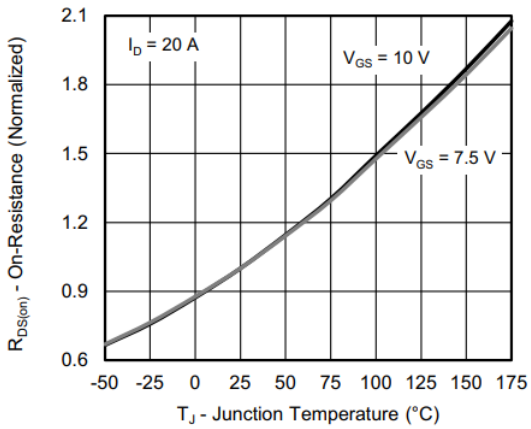
Transfer Characteristics



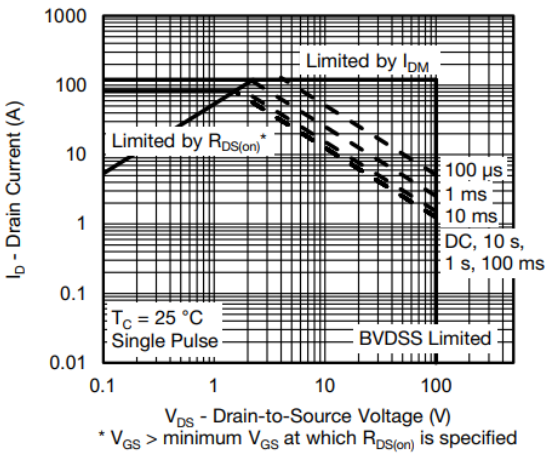
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

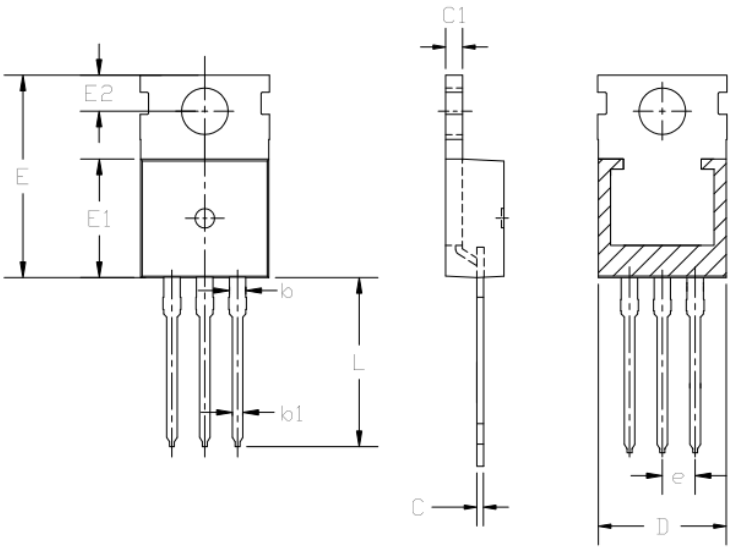


On-Resistance vs. Junction Temperature

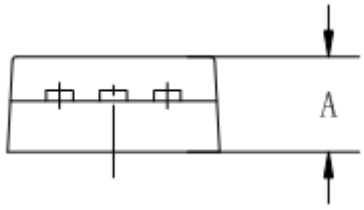


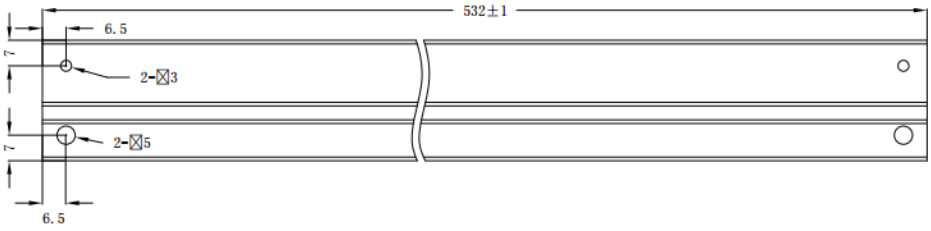
Safe Operating Area

➢ Package Information

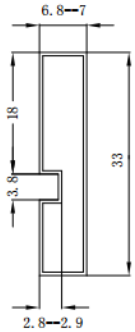


SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	4.40	--	4.60
b	1.20	--	1.36
b1	0.70	--	0.90
C	0.48	--	0.53
C1	1.28	--	1.32
D	9.80	10.00	10.20
E	15.20	15.45	15.75
E1	9.00	9.20	9.40
E2	2.60	--	2.90
e	--	2.54	--
L	13.00	--	13.40





T=0.5 ±0.1



技术要求：
1. 材料：透明PVC
2. 表面电阻：10E5~10E10 OHMS/SQ
3. 未注尺寸公差±0.3
4. 黑色钉子由厂家出货时塞于左端

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