



N-Channel Enhanced MOSFET

➤ **Features**

VDS	VGS	R _{DS(on)} Typ.	ID
70V	±25V	5.2mR@10V	110A

➤ **Description**

This device is N-Channel enhancement MOSFET. Uses advanced trench technology and design to provide excellent R_{DS(on)} with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

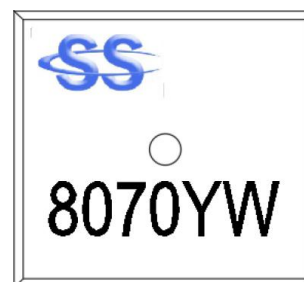
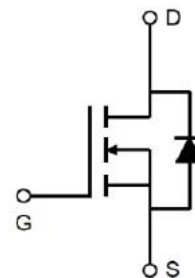
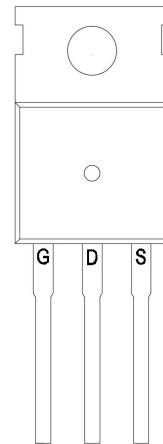
➤ **Applications**

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

➤ **Ordering Information**

Device	Package	Shipping
SSC8070GT4	TO-220-3L	50/Tube
Minimum Purchase Quantity: 1K/Box		

➤ **Pin configuration**



Marking

(Y:Product Year/W: Product Week)

**➤ Absolute Maximum Ratings**($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit	
V_{DSS}	Drain-to-Source Voltage	70	V	
V_{GSS}	Gate-to-Source Voltage	± 25	V	
I_D	Continuous Drain Current ^d	$T_C=25^\circ\text{C}$	110	A
		$T_C=100^\circ\text{C}$	44	
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	42	A
		$T_A=70^\circ\text{C}$	26	
I_{DM}	Pulsed Drain Current ^b	440	A	
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	104	W
		$T_C=100^\circ\text{C}$	41	
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	15	W
		$T_A=70^\circ\text{C}$	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	$^\circ\text{C}$	
T_{STG}	Storage temperature range	-55~150		

➤ Thermal Resistance Ratings($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	8	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.2	

Note:

- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with $T_A=25^\circ\text{C}$. The value in any given application depends on the user is specific board design. The power dissipation is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P_D is based on $T_{J(\text{MAX})}=150^\circ\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.
- The maximum current rating is package limited.

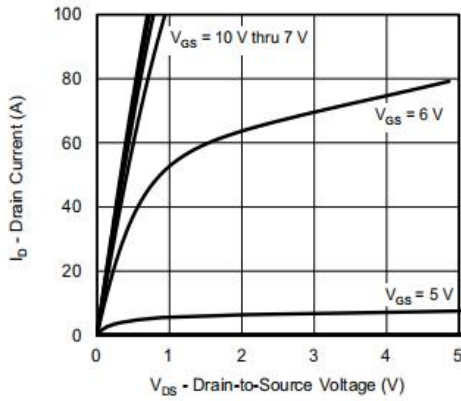


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

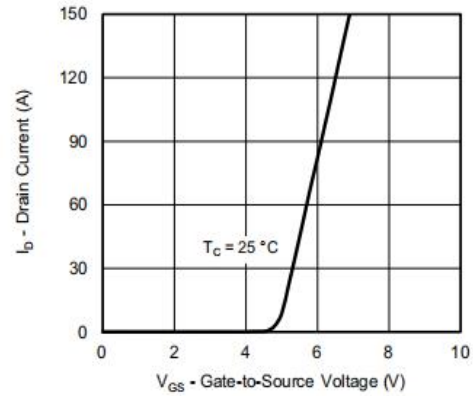
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	70			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2	3	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=30A$		5.2	6.6	mR
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=70V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 25V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=20V, I_D=10A$		33		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=10A$		0.77	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=35V, V_{GS}=0V,$ $f=1MHz$		4810		pF
C_{oss}	Output Capacitance			1240		
C_{rss}	Reverse Capacitance			200		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V, R_L=1.75R$ $V_{DS}=35V, R_G=3R$		19		ns
T_r	Rise time			23		
$T_{D(OFF)}$	Turn-off delay time			35		
T_f	Fall time			15		
Q_G	Total Gate Charge	$V_{GS}=10V, V_{DS}=35V$ $I_D=20A$		66		nC
Q_{GS}	Gate Source Charge			16		
Q_{GD}	Gate Drain Charge			13		
T_{rr}	Diode Recovery Time	$I_F=20A, di/dt=200A/\mu s$		98		ns
Q_{rr}	Diode Recovery Charge	$I_F=20A, di/dt=200A/\mu s$		166		nC



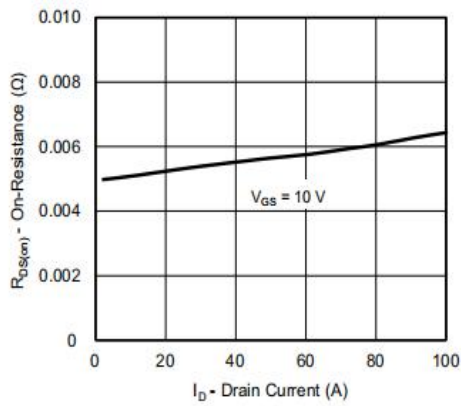
➤ Typical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



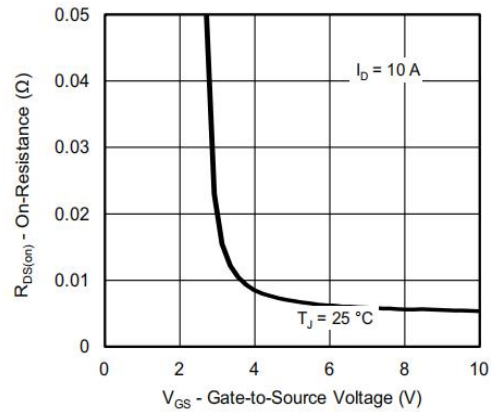
Output Characteristics



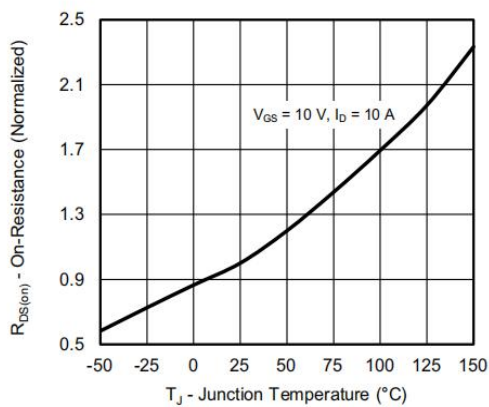
Transfer Characteristics



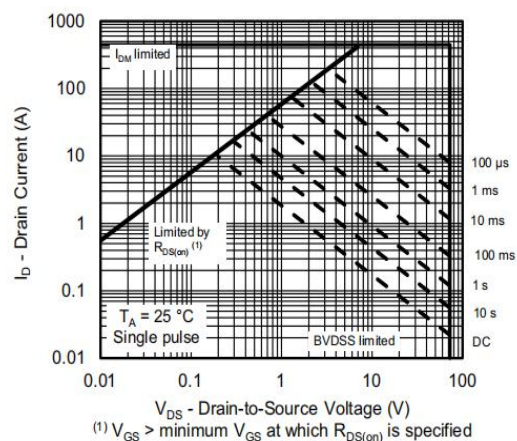
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage



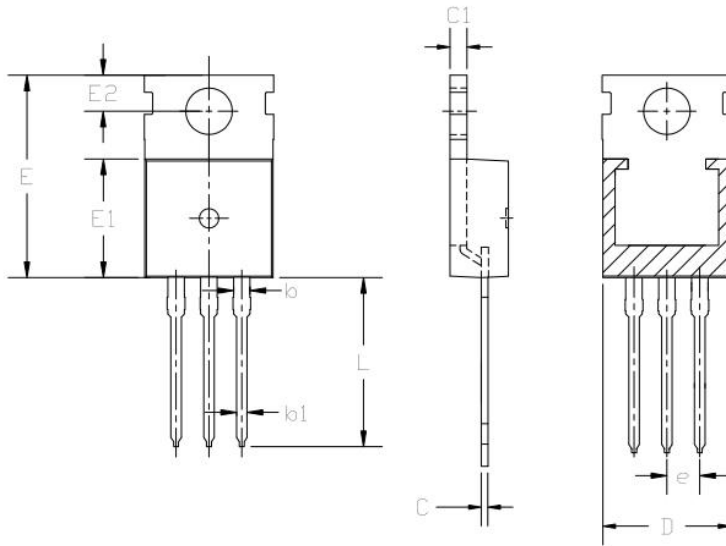
On-Resistance vs. Junction Temperature



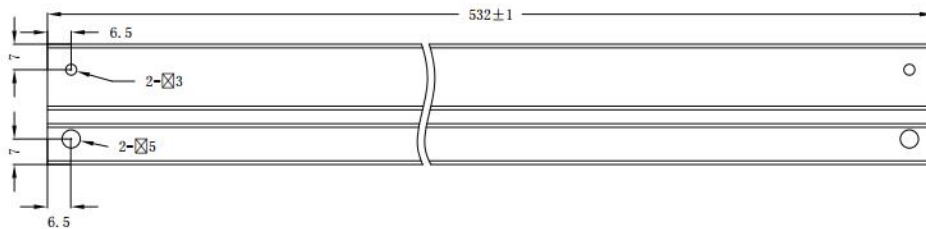
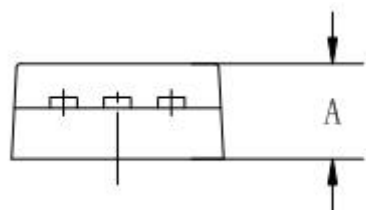
Safe Operating Area, Junction-to-Ambient



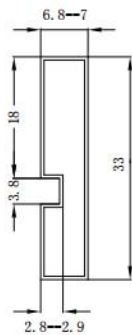
➤ Package and Tube Information



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: $10E5 \sim 10E10$ 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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