Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	70mΩ@10V	4A
	85mΩ@4.5V	

合肥矽普半导体
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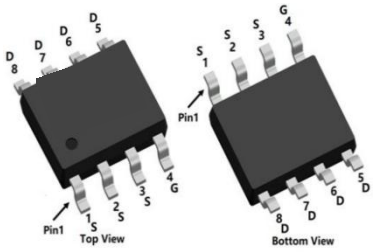
Feature

- Fast Switching
- Low Gate Charge and Rdson
- 100% Single Pulse avalanche energy Test

Applications

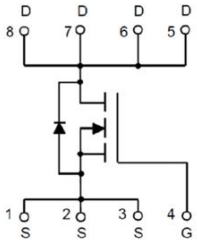
- Power Switching Application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

Package

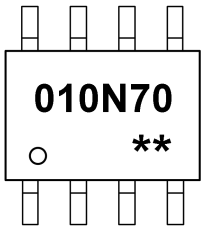


SOP-8L

Circuit Diagram



Marking



010N70 :Device Code
**** :Week Code

Order Information

Device	Package	Unit/Tape
SP010N70P8	SOP-8L	4000

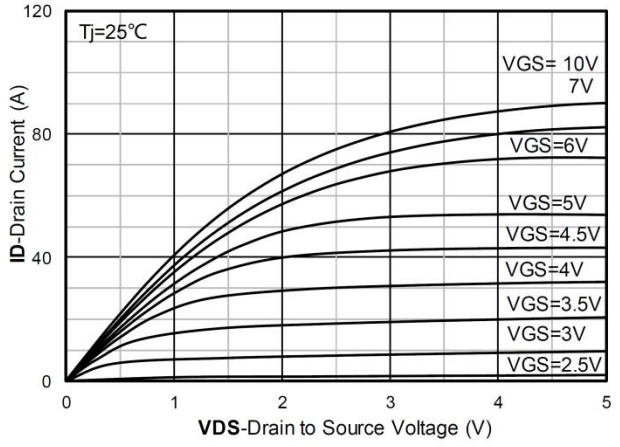
Absolute maximum ratings (Ta=25℃,unless otherwise noted)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	4	A
Pulsed Drain Current	I_{DM}	16	A
Power Dissipation	P_D	1.5	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	83	℃/W
Storage Temperature Range	T_{STG}	-55 to 150	℃
Operating Junction Temperature Range	T_J	-55 to 150	℃

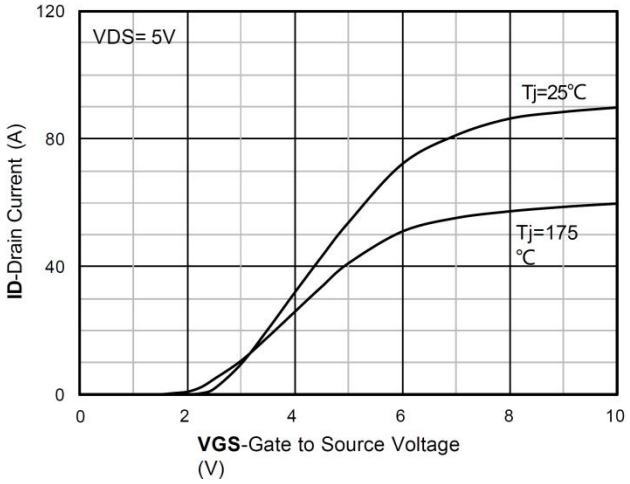
Electrical characteristics (Ta=25℃, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V , ID=250uA	100	-	-	V
Drain-Source Leakage Current	I_{DSS}	VDS=80V , VGS=0V	-	-	1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =250uA	1.2	1.8	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	VGS=10V , ID=2A	-	70	100	mΩ
		VGS=4.5V , ID=1A	-	85	110	
Dynamic characteristics						
Input Capacitance	C_{iss}	VDS=50V , VGS=0V , f=1MHz	-	1100	-	pF
Output Capacitance	C_{oss}		-	55	-	
Reverse Transfer Capacitance	C_{rss}		-	40	-	
Total Gate Charge	Q_g	VDS=50V , VGS=10V , ID=3A	-	12	-	nC
Gate-Source Charge	Q_{gs}		-	2.9	-	
Gate-Drain Charge	Q_{gd}		-	1.8	-	
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	VDD=50V VGS=10V , RG=3Ω, ID=3A	-	3.9	-	nS
Rise Time	T_r		-	26	-	
Turn-Off Delay Time	$T_{d(off)}$		-	16.2	-	
Fall Time	T_f		-	8.9	-	
Diode Characteristics						
Diode Forward Voltage	V_{SD}	VGS=0V , IS=1A	-	-	1.2	V

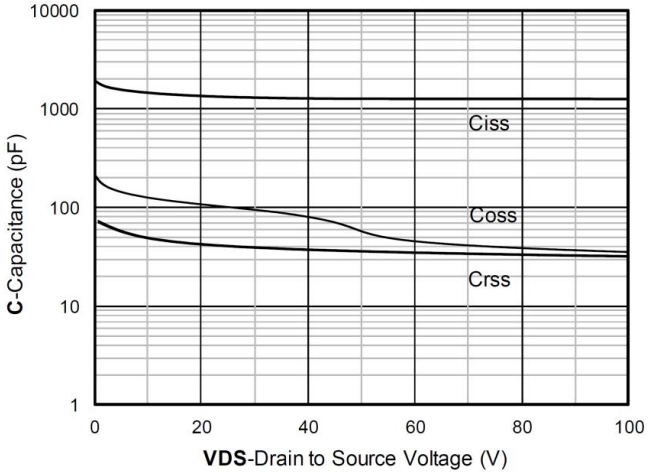
Typical Characteristics



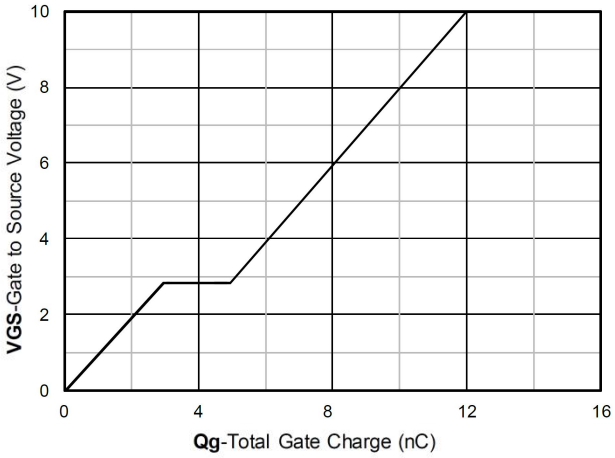
Output Characteristics



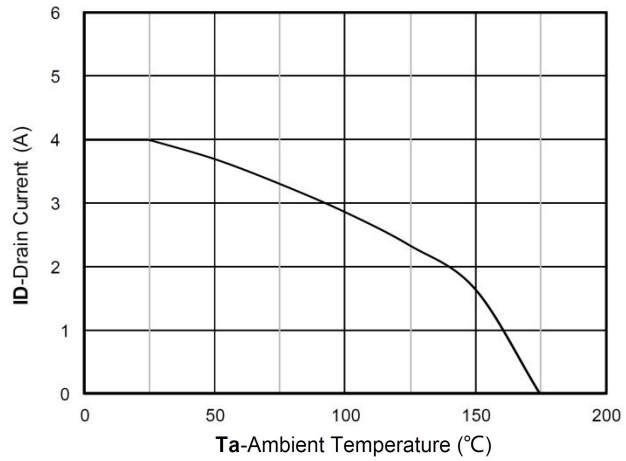
Transfer Characteristics



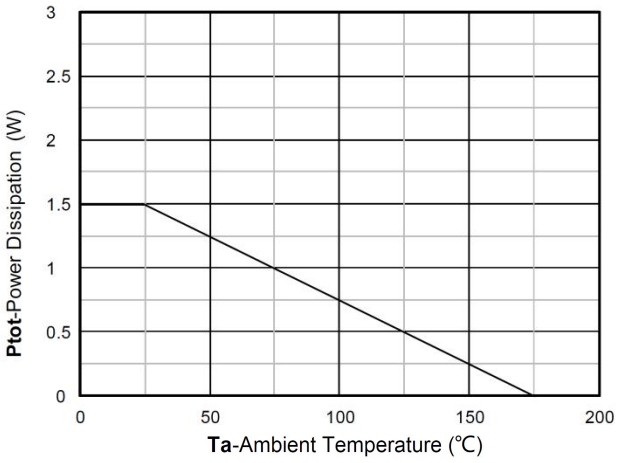
Capacitance Characteristics



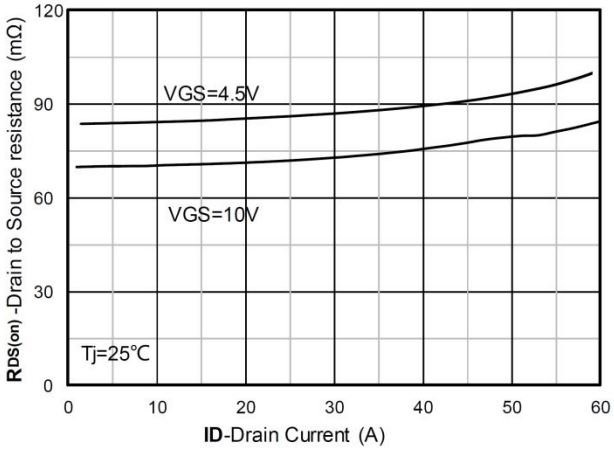
Gate Charge



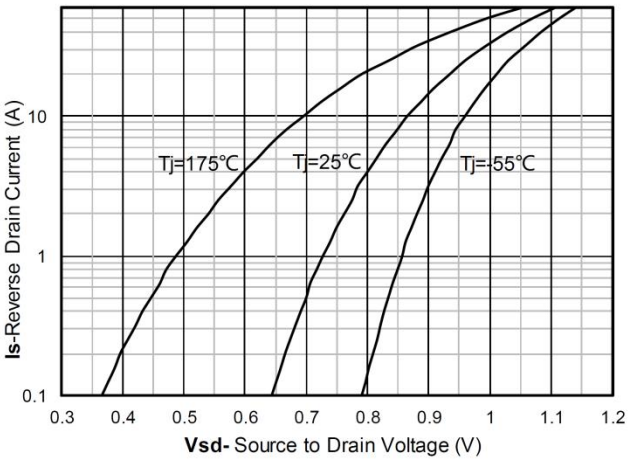
Current dissipation



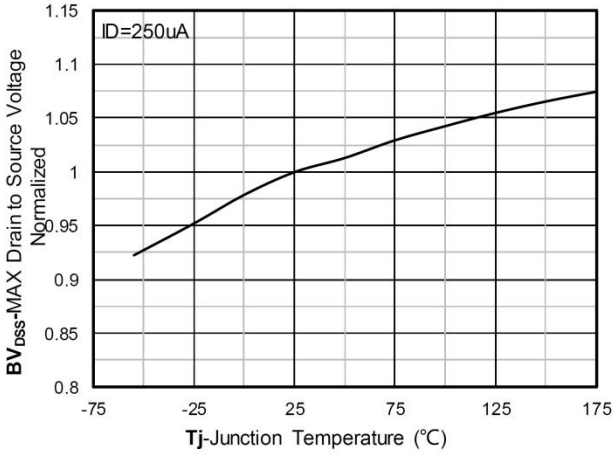
Power dissipation



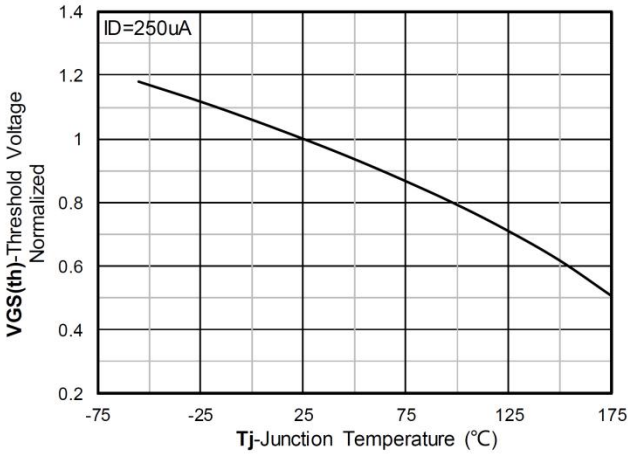
RDS(on) VS Drain Current



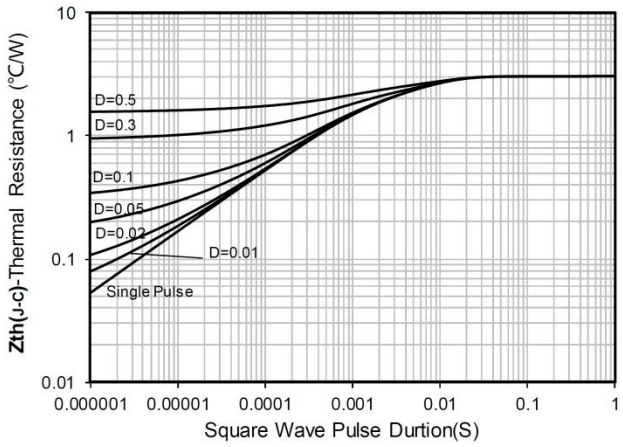
Forward characteristics of reverse diode



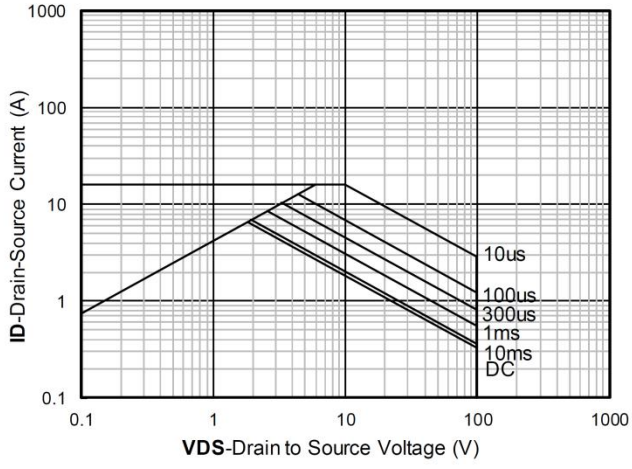
Normalized breakdown voltage



Normalized Threshold voltage

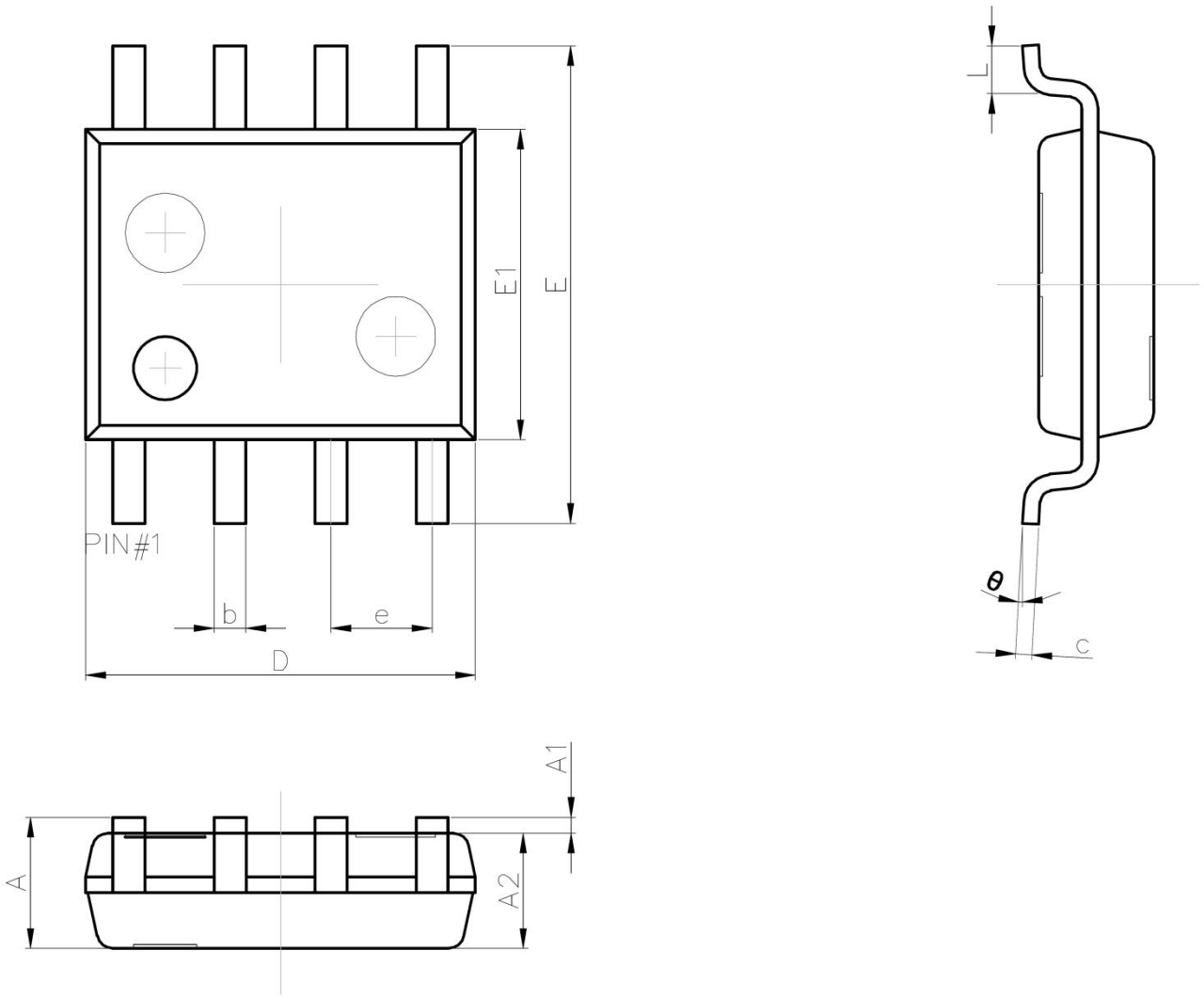


Maximum Transient Thermal Impedance



Safe Operation Area

SOP-8L Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
c	0.17	0.25
D	4.80	5.00
e	1.27 REF.	
E	5.80	6.20
E1	3.80	4.00
L	0.40	1.27
θ	0°	8°