Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	110mΩ@10V	5A

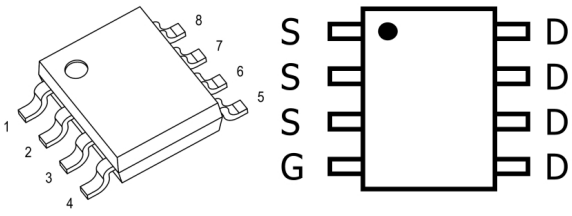
Feature

- VDS 100V
- ID 5.0A
- $R_{DS(ON)}$(at VGS=10V) < 140 mohm

Applications

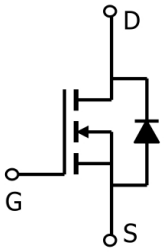
- Consumer electronic power supply
- Motor control
- Synchronous-rectification
- Isolated DC/DC convertor
- Invertors

Package

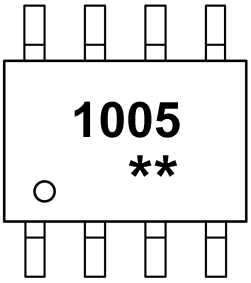


SOP-8L

Circuit diagram



Marking



1005 : **Product code**
****** : **Week code.**

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
Drain Current – Continuous	I_D	5	A
Drain Current – Pulsed[1]	I_{DM}	20	A
Power Dissipation (TC=25℃)	P_D	1.9	W
Thermal Resistance Junction to ambient	$R_{\theta JA}$	65.8	℃/W
Storage Temperature Range	T_{STG}	-50 to 150	℃
Operating Junction Temperature Range	T_J	-50 to 150	℃

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	B_{VDSS}	VGS=0V , ID=250uA	100	---	---	V
Drain-Source Leakage Current	I_{DSS}	VDS=100V , VGS=0V	---	---	1	uA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =250uA	1	1.8	3	V
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	---	---	100	nA
Static Drain-Source On-Resistance	$R_{DS(ON)}$	VGS=10V , ID=3A	---	110	140	mΩ
		VGS=4.5V , ID=2A	---	160	300	mΩ
Dynamic Characteristics						
Total Gate Charge	Q_g	VGS=10V,VDS=50V,ID=3.0A	---	4.3	---	nC
Gate-Source Charge	Q_{gs}		---	1.5	---	
Gate-Drain Charge	Q_{gd}		---	1.1	---	
Turn-On Delay Time	$T_{d(on)}$	VGS=10V,VDD=50V, ID=3.0A, RGEN=2Ω	---	14.7	---	ns
Rise Time	T_r		---	3.5	---	
Turn-Off Delay Time	$T_{d(off)}$		---	20.9	---	
Fall Time	T_f		---	2.7	---	
Input Capacitance	C_{iss}	VDS=50V,VGS=0V,f=1MHZ	---	206	---	pF
Output Capacitance	C_{oss}		---	29	---	
Reverse Transfer Capacitance	C_{rss}		---	1.4	---	
Drain-Source Body Diode Characteristics						
Continuous Source Current	I_S	VG=VD=0V , Force Current	---	---	5	A
Diode Forward Voltage	V_{SD}	VGS=0V , IS=3A , TJ=25℃	---	---	1.2	V

Typical Characteristics

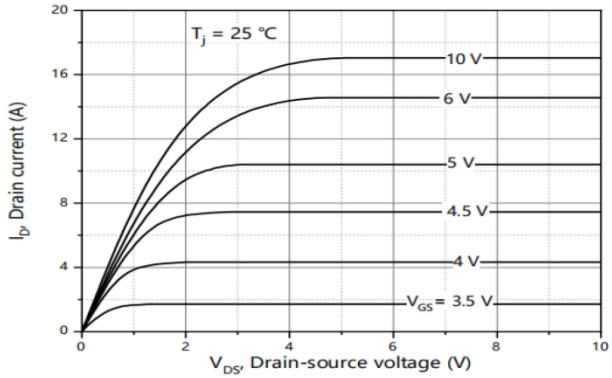


Figure1. Output Characteristics

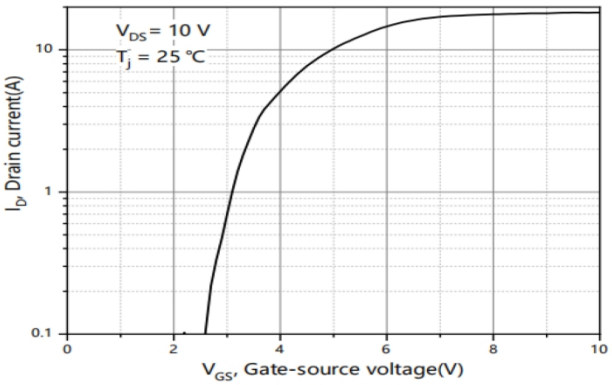


Figure2. Transfer Characteristics

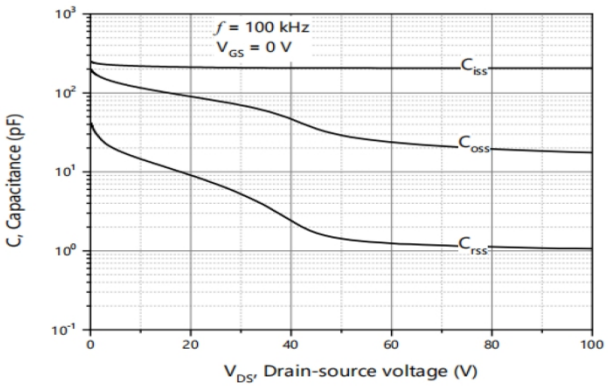


Figure3. Capacitance Characteristics

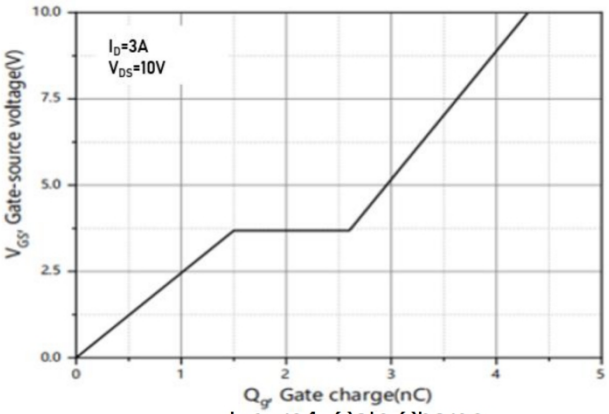


Figure4. Gate Charge

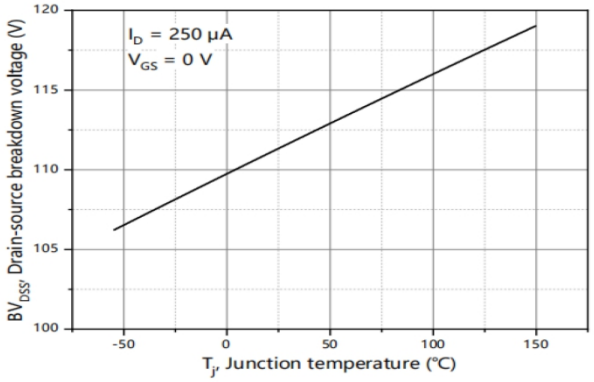


Figure5. Drain-Source breakdown voltage

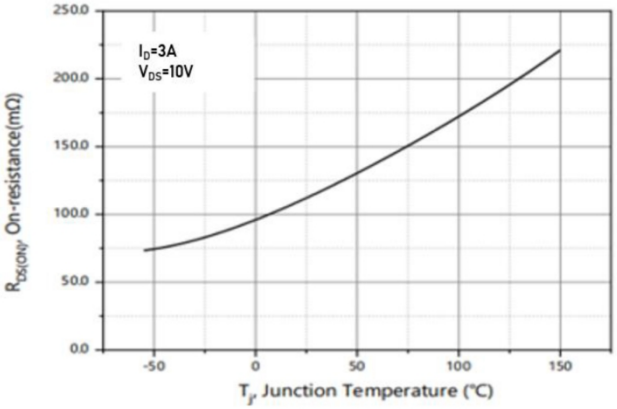


Figure6. Drain-Source on Resistance

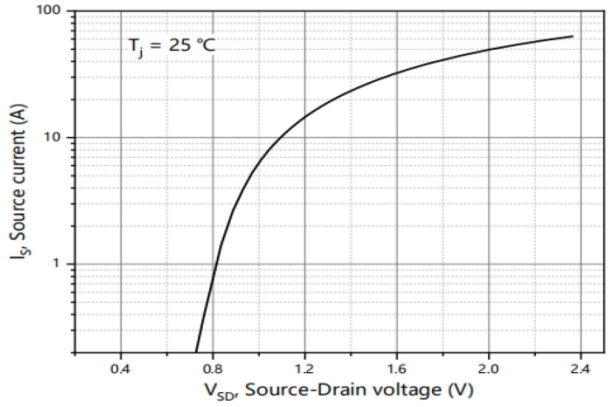


Figure7. Forward characteristic of body diode

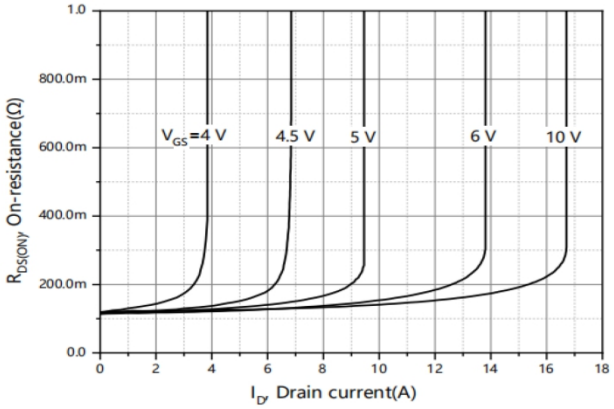


Figure8. Drain-source on-state resistance

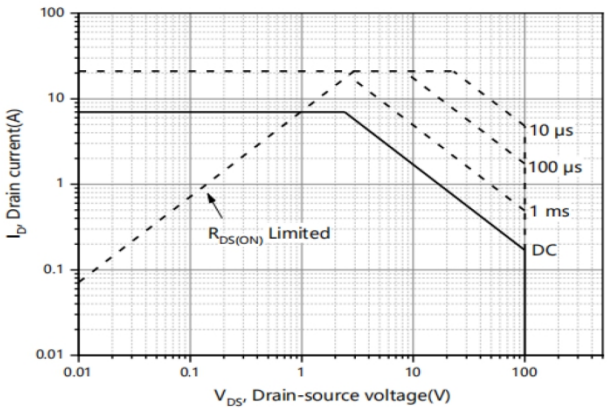


Figure9. Safe Operation Area T_A=25 ℃

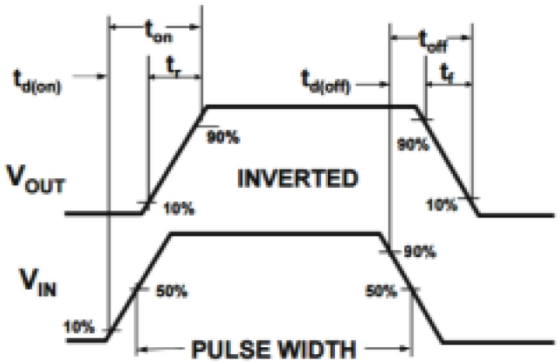
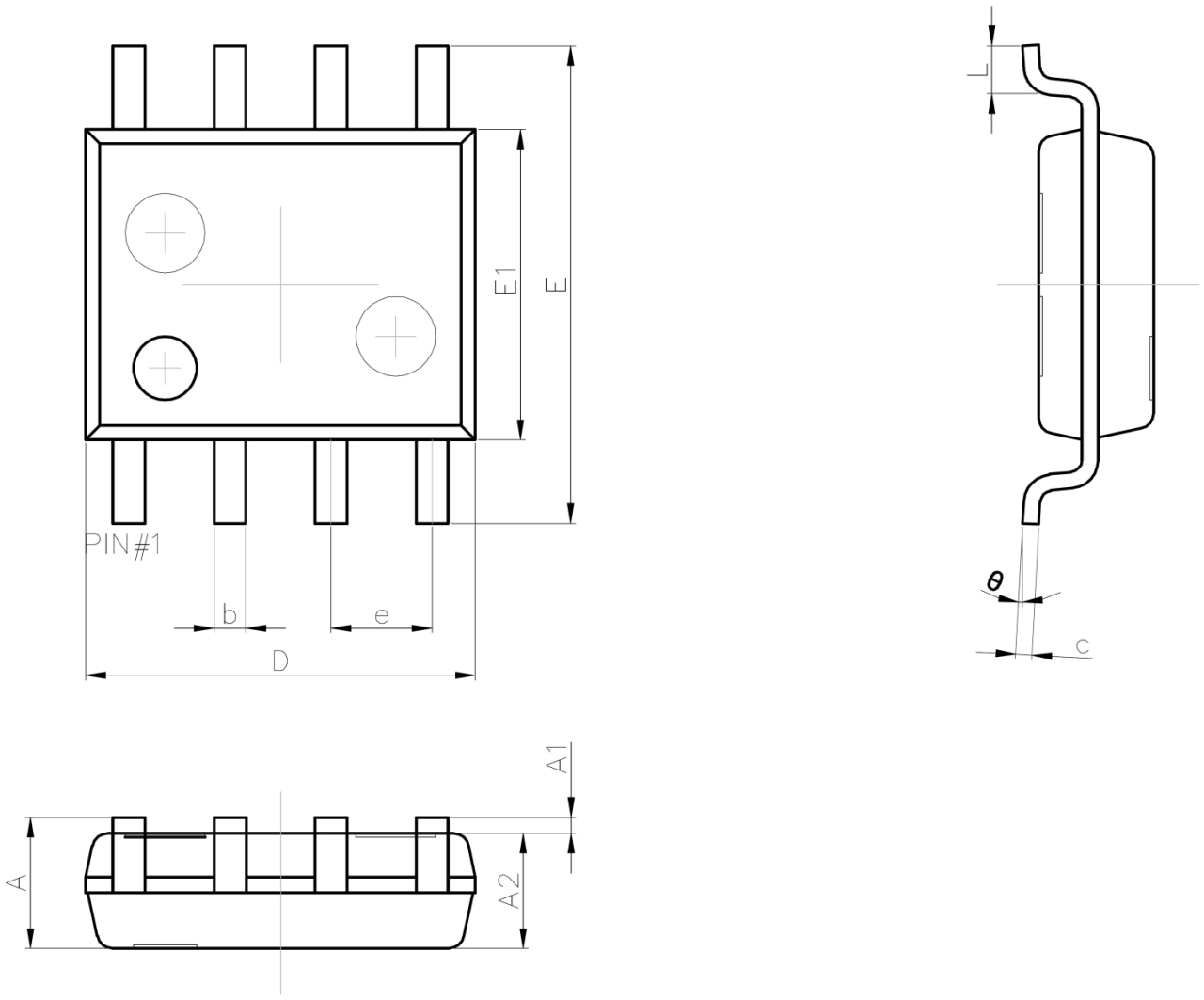


Figure10. Switching wave

SOP-8 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°