Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	160mΩ@10V	2.5A
-100V	230mΩ@-10V	-2.5A

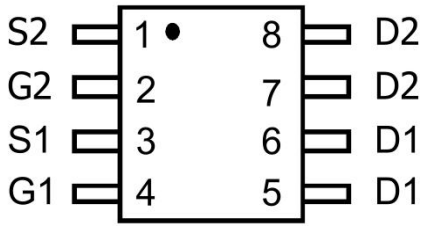
Feature

- TrenchFET Power MOSFET
- Excellent RDS(on) and Low Gate Charge
- Fast Switching Speed

Application

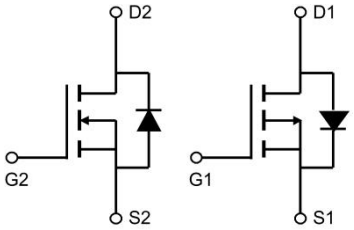
- Motor Control
- DC-DC Converters
- Power Management

Package

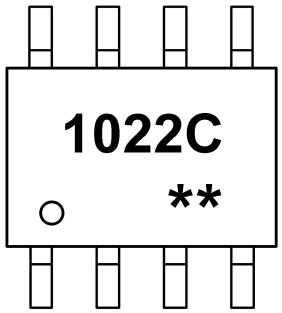


SOP-8

Circuit diagram



Marking



1022C = Device code

** = Week Code

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

Parameter	Symbol	Value		Unit
		N-Channel	P-Channel	
Drain-Source Voltage	V_{DS}	100	-100	V
Gate-Source Voltage	V_{GS}	±20	±20	V
Continuous Drain Current	I_D	2.5	-2.5	A
Power Dissipation	P_D	2	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5		℃/W
Junction Temperature	T_J	150		℃
Storage Temperature	T_{STG}	-55~ +150		℃

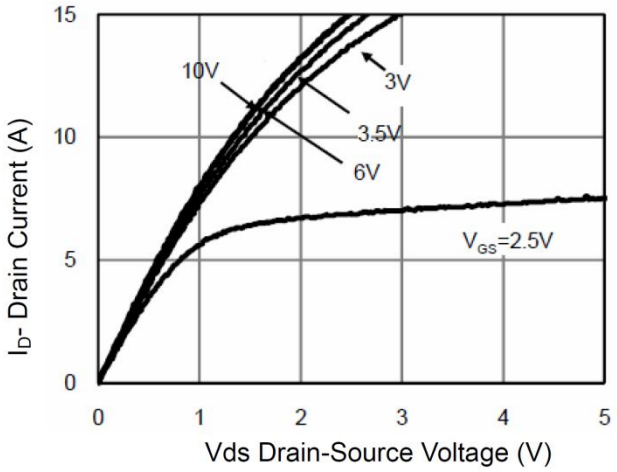
N-Channel Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	VGS = 0V, ID = 250μA	100			V
Zero gate voltage drain current	I_{DSS}	VDS = 80V,VGS = 0V			1	μA
Gate-body leakage current	I_{GSS}	VGS =±20V, VDS = 0V			±0.1	μA
Gate threshold voltage	$V_{GS(th)}$	VDS =VGS, ID = 250μA	1.0	1.5	2.5	V
Drain-source on-resistance	$R_{DS(on)}$	VGS = 10V, ID = 2A		160	210	mΩ
		VGS = 4.5V, ID = 1.5A		230	300	
Dynamic characteristics						
Input Capacitance	C_{iss}	VDS=50V , VGS=0V , f=1MHz		498		pF
Output Capacitance	C_{oss}			30		
Reverse Transfer Capacitance	C_{rss}			19		
Switching Characteristics						
Total gate charge	Q_g	VDS=50V , VGS=10V , ID=1.6A		9.3		nC
Gate-source charge	Q_{gs}			1.8		
Gate-drain charge	Q_{gd}			2.5		
Turn-on delay time	$t_{d(on)}$	VDD=50V , VGS=10V , RG=6Ω, ID=1A		3		ns
Turn-on rise time	t_r			2		
Turn-off delay time	$t_{d(off)}$			12		
Turn-off fall time	t_f			6		
Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=1A , T_J=25℃			1.2	V

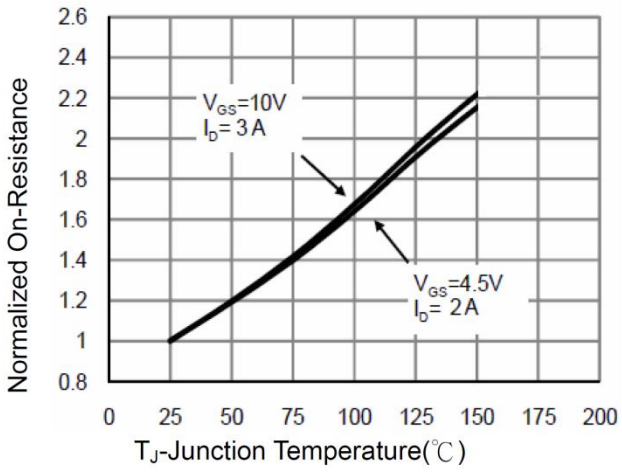
P-Channel Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-100			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = -80V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1	-1.5	-2.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -1A		230	300	mΩ
		V_{GS} = -4.5V, I_D = -1A		240	320	
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS} =-50V, V_{GS} =0V,f=1MHz		730		pF
Output Capacitance	C_{oss}			60		
Reverse Transfer Capacitance	C_{rss}			45		
Switching Characteristics						
Total gate charge	Q_g	V_{DS} =-50V,V_{GS} =-10V, I_D =-2.1A		16		nC
Gate-source charge	Q_{gs}			2.5		
Gate-drain charge	Q_{gd}			4.8		
Turn-on delay time	$t_{d(on)}$	V_{DD}=-50V,ID=-1A, V_{GS}=-10V,R_{GEN}=6Ω		4.3		ns
Turn-on rise time	t_r			5.8		
Turn-off delay time	$t_{d(off)}$			21		
Turn-off fall time	t_f			11		
Source-Drain Diode Characteristics						
Body Diode Voltage	V_{SD}	I_S=-1A, V_{GS} = 0V			-1.2	V

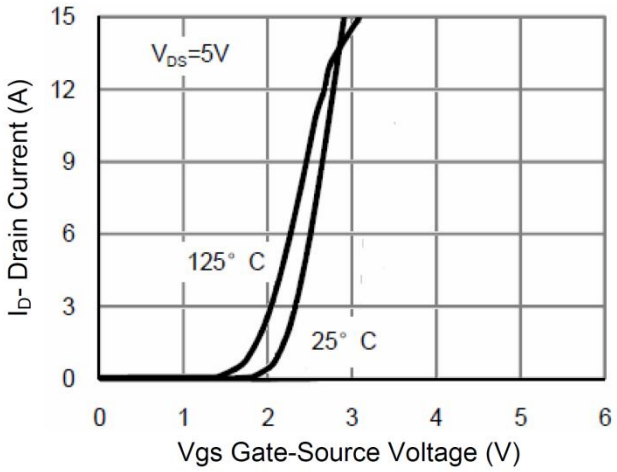
N-Channel Typical Characteristics



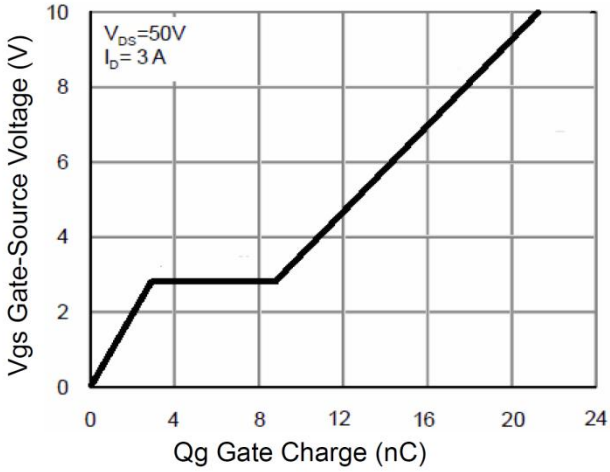
Output Characteristics



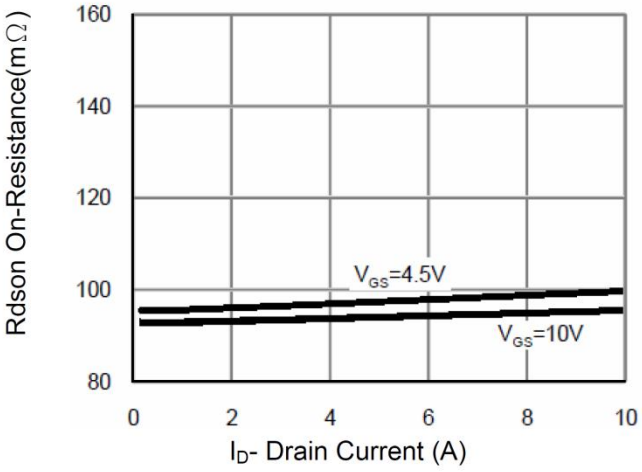
Rdson-Junction Temperature



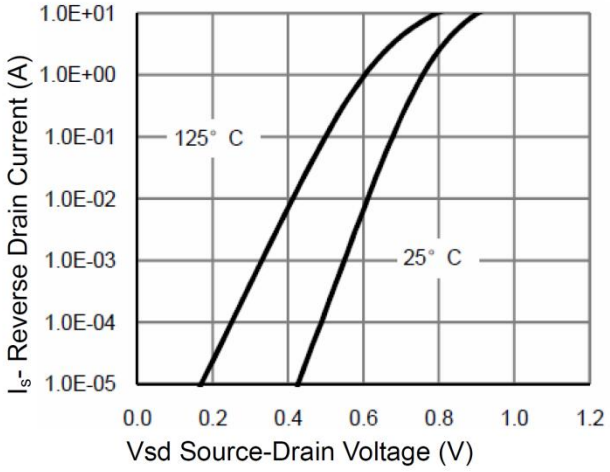
Transfer Characteristics



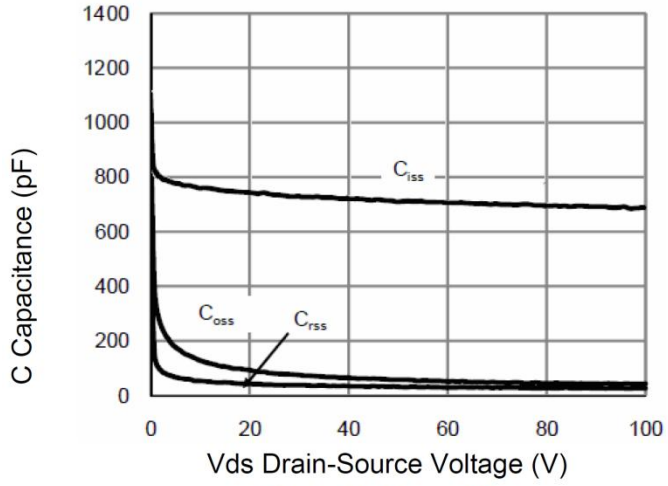
Gate Charge



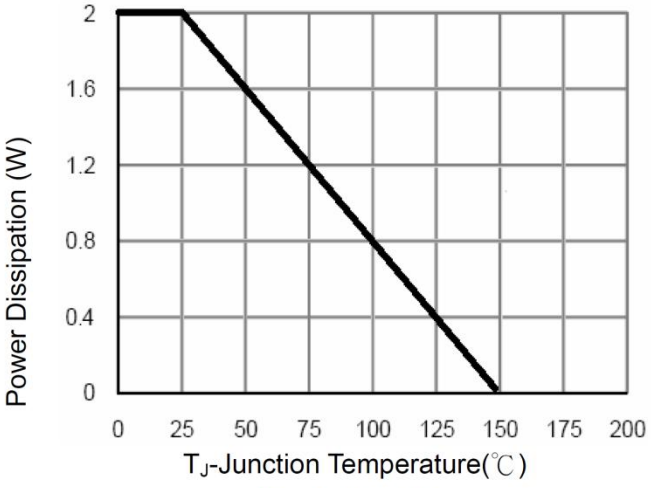
Rdson- Drain Current



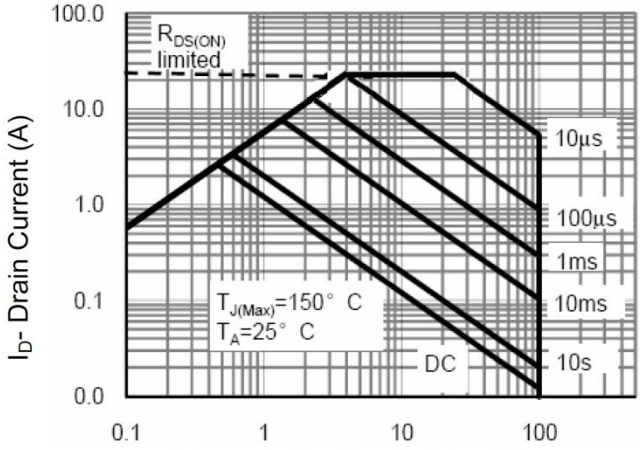
Source- Drain Diode Forward



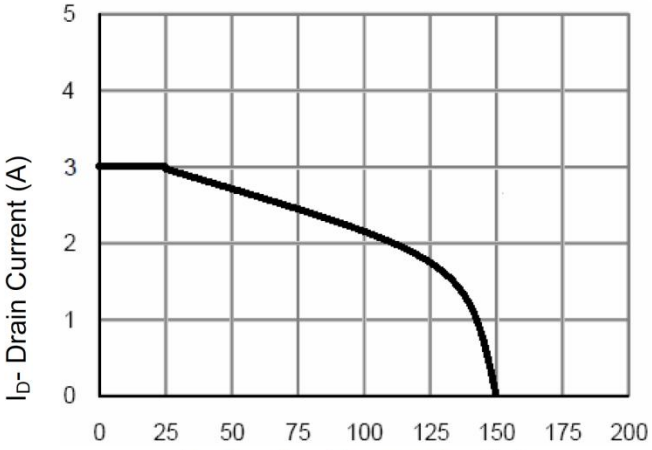
Capacitance vs Vds



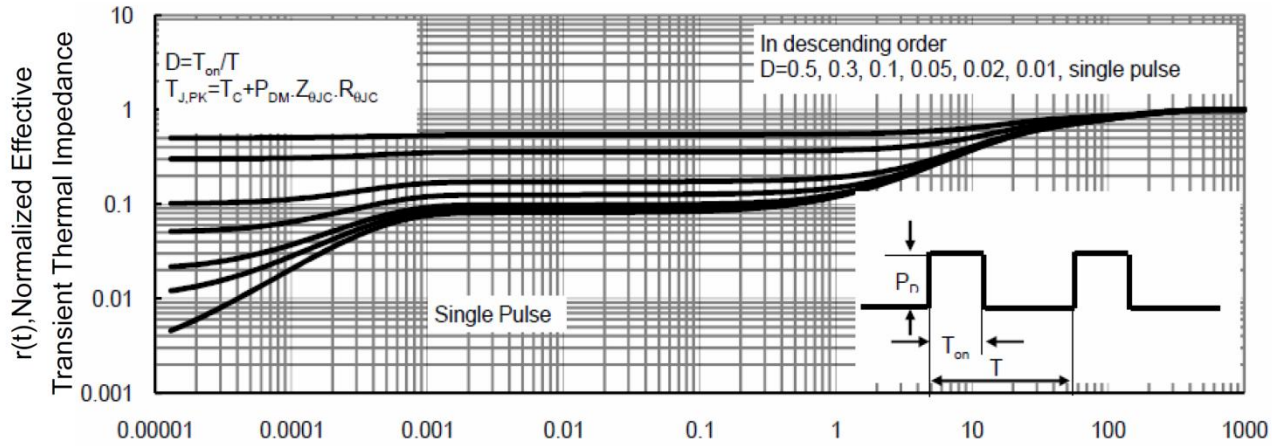
Power De-rating



Safe Operation Area

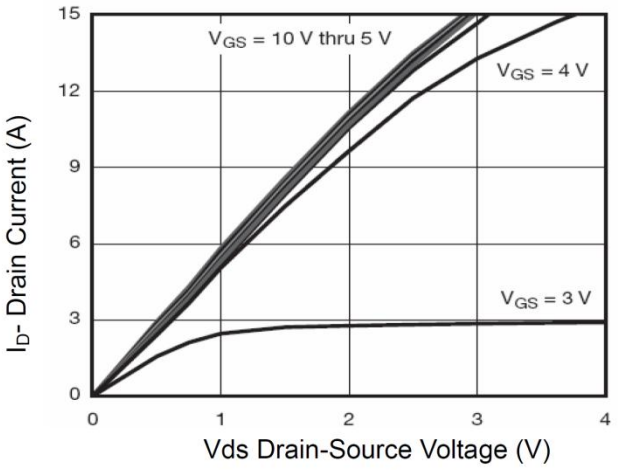


Current De-rating

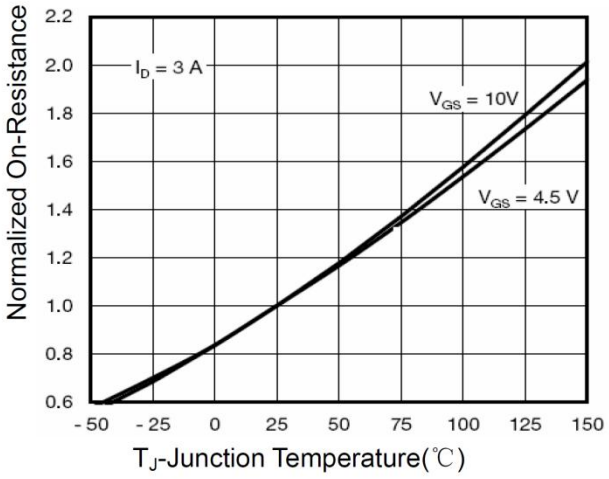


Normalized Maximum Transient Thermal Impedance

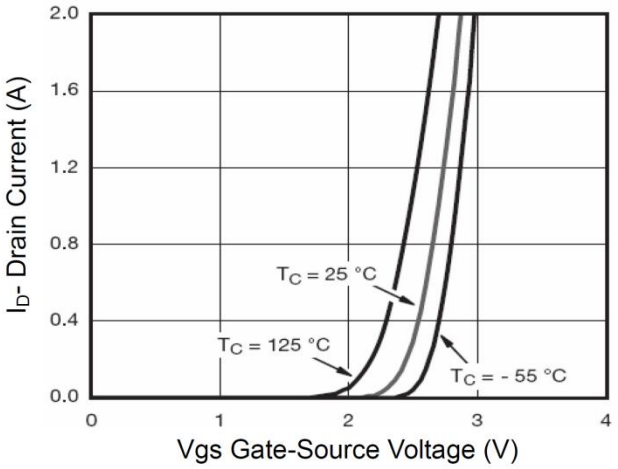
P-Channel Typical Characteristics



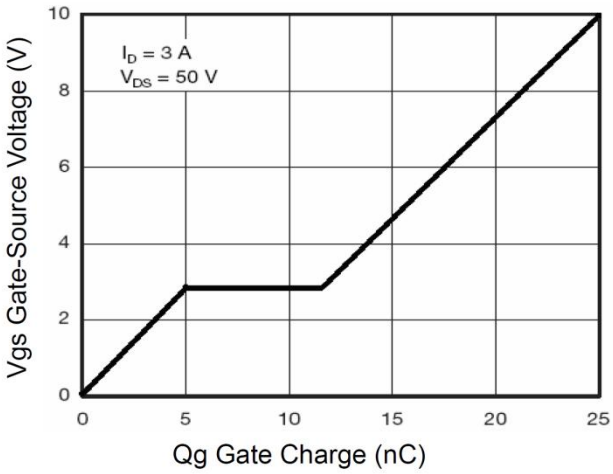
Output Characteristics



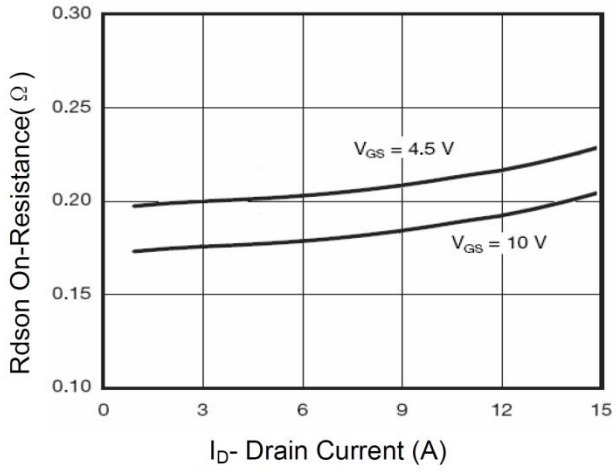
Rdson-JunctionTemperature



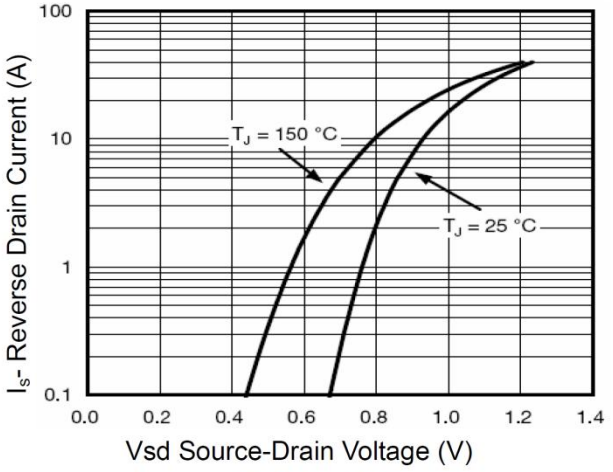
Transfer Characteristics



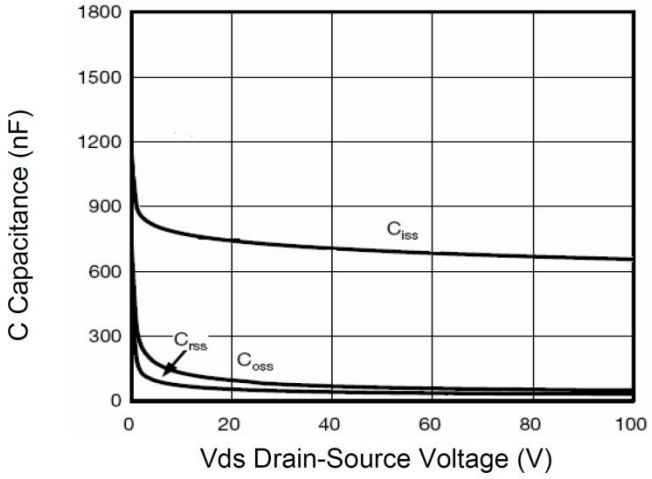
Gate Charge



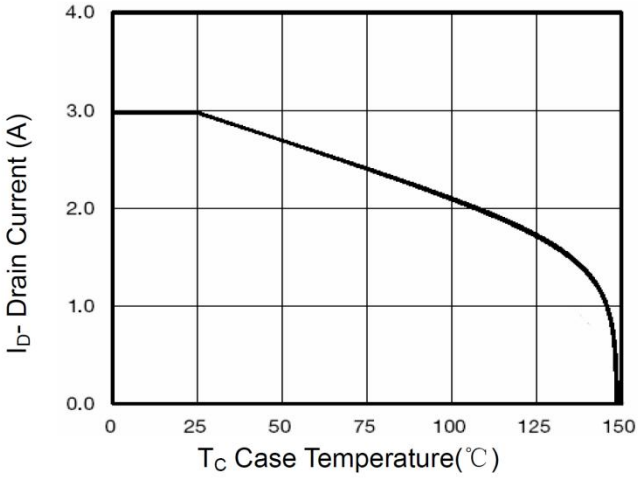
Rdson- Drain Current



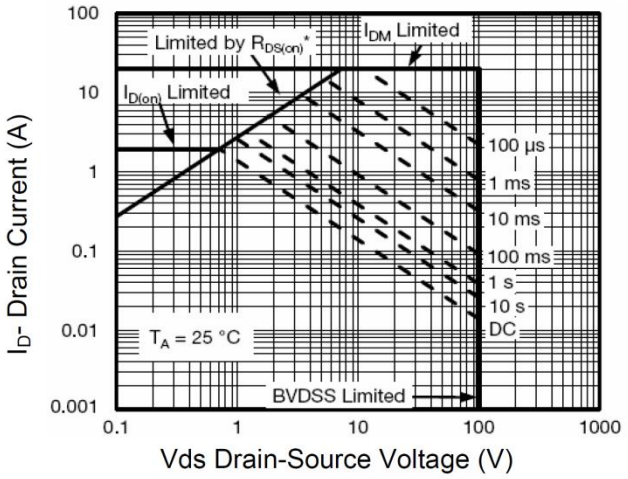
Source- Drain Diode Forward



Capacitance vs Vds



Drain Current vs Case Temperature



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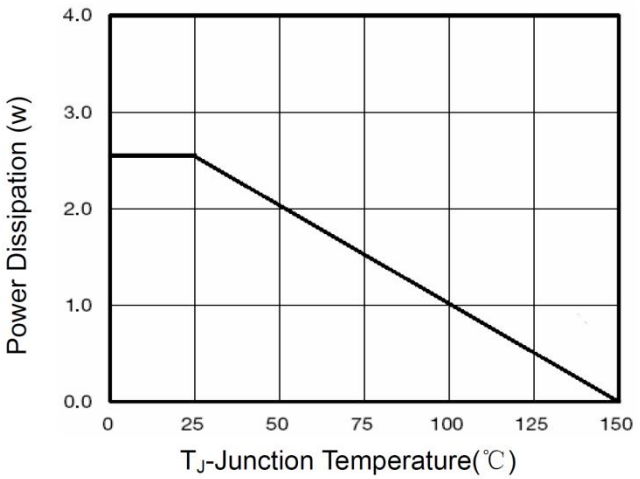
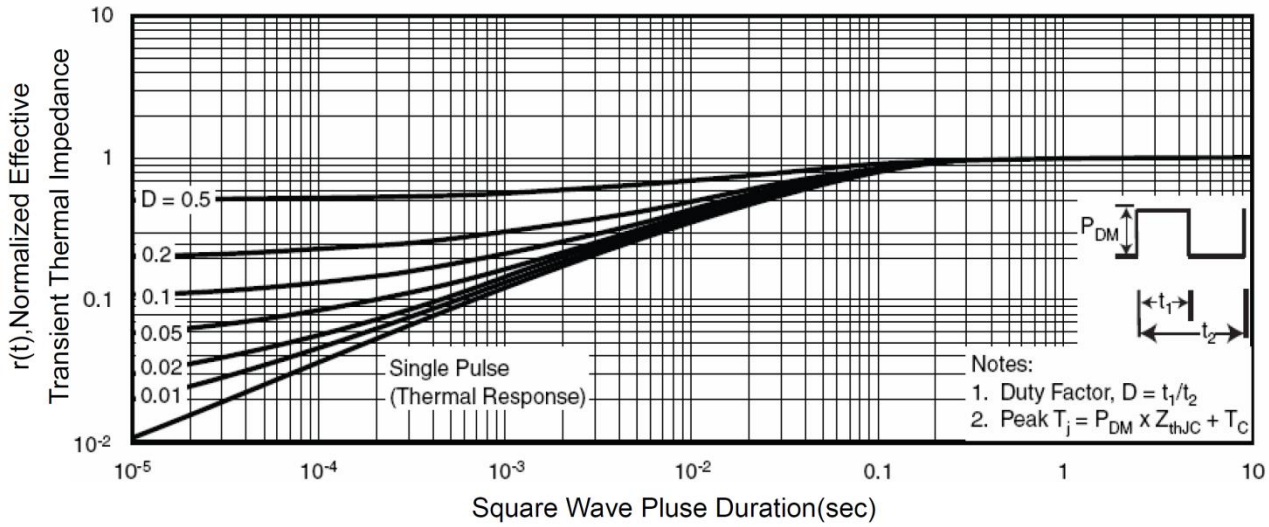
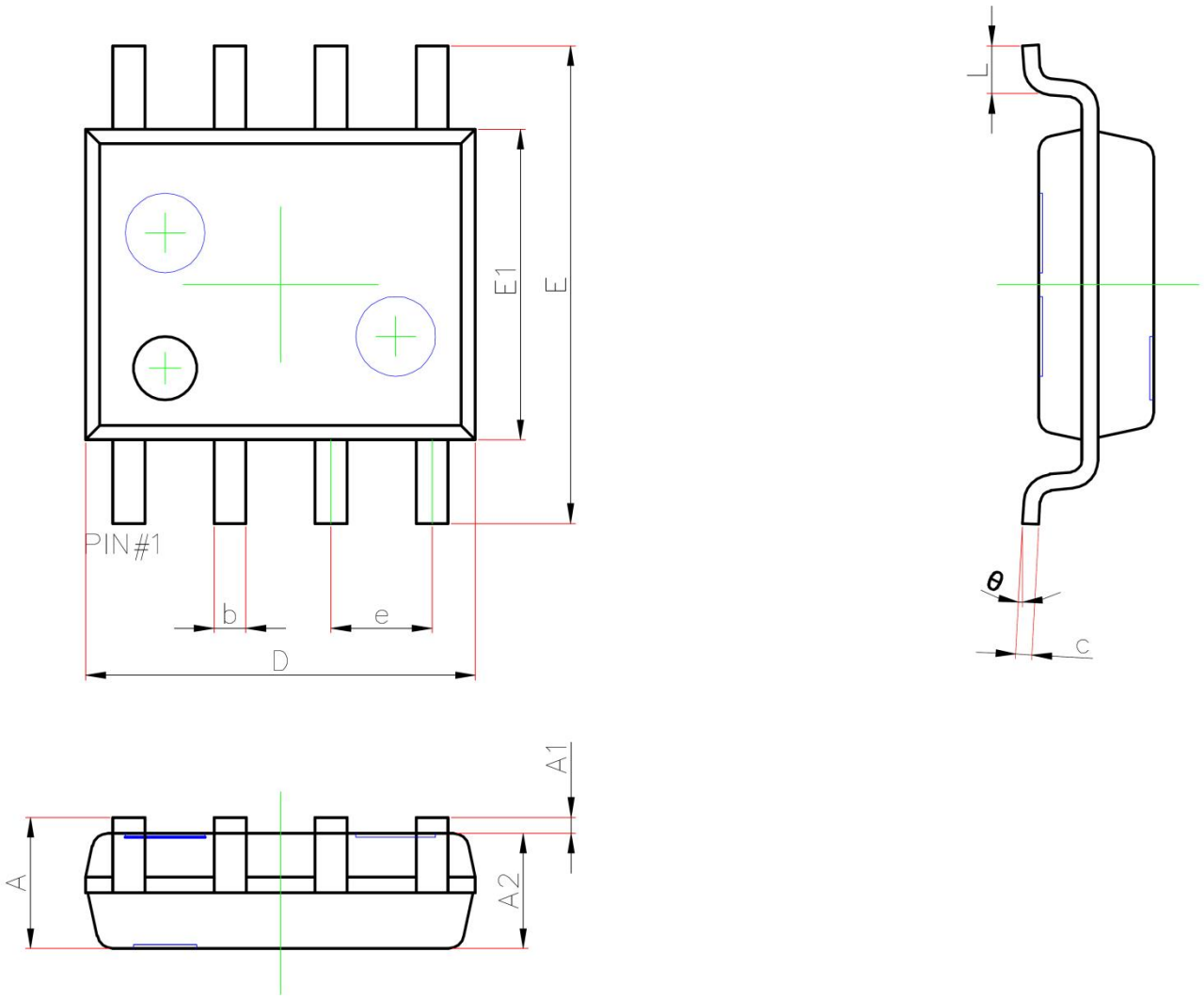


Power De-rating



Normalized Maximum Transient Thermal Impedance

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°

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