

Electrical Characteristics (T_J=25 , unless otherwise noted)

Symbol	Parameter	Condition s	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =-250uA	-40	---	---	V
ΔBV _{DSS} /ΔT _J	BV _{DSS} Temperature Coefficient	Reference to 25°C , I _D =-1mA	---	-0.02	---	V/°C
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =-10V , I _D =-8A	---	25	31	mΩ
		V _{GS} =-4.5V , I _D =-4A	---	32	46	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =-250uA	-1.0	1.5	-2.5	V
ΔV _{GS(th)}	V _{GS(th)} Temperature Coefficient		---	3.72	---	V/°C
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-32V , V _{GS} =0V , T _J =25°C	---	---	1	uA
		V _{DS} =-32V , V _{GS} =0V , T _J =55°C	---	---	5	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =-5V , I _D =-8A	---	10.7	---	S
Q _g	Total Gate Charge (-4.5V)	V _{DS} =-15V , V _{GS} =-4.5V , I _D =-1A	---	11.5	---	nC
Q _{gs}	Gate-Source Charge		---	3.5	---	
Q _{gd}	Gate-Drain Charge		---	3.3	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =-15V , V _{GS} =-10V , R _G =3.3Ω, I _D =-1A	---	22	---	ns
T _r	Rise Time		---	15.7	---	
T _{d(off)}	Turn-Off Delay Time		---	59	---	
T _f	Fall Time		---	5.5	---	
C _{iss}	Input Capacitance	V _{DS} =-15V , V _{GS} =0V , f=1MHz	---	1415	---	pF
C _{oss}	Output Capacitance		---	134	---	
C _{rss}	Reverse Transfer Capacitance		---	102	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current ^{1,5}	V _G =V _D =0V , Force Current	---	---	-30	A
I _{SM}	Pulsed Source Current ^{2,5}		---	---	-60	A
V _{SD}	Diode Forward Voltage ²	V _{GS} =0V , I _S =-1A , T _J =25	---	---	-1.2	V

Note :

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
- 2.The data tested by pulsed , pulse width ≈300us , duty cycle ≈2%
- 3.The EAS data shows Max. rating . The test condition is V_{DD}=-25V,V_{GS}=-10V,L=0.1mH,I_{AS}=-28.6A
- 4.The power dissipation is limited by 150 junction temperature
- 5.The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

Typical Characteristics

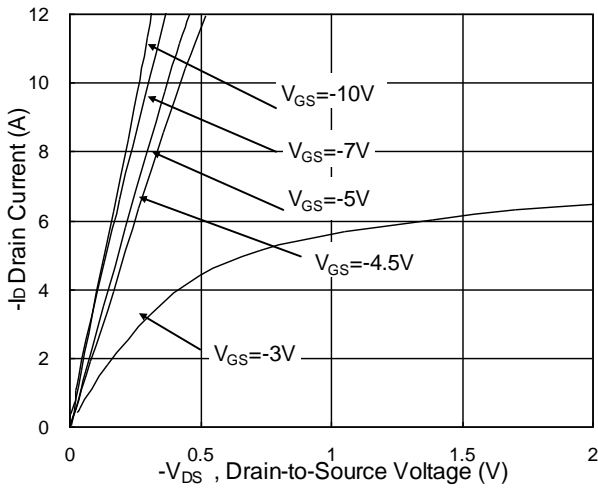


Fig.1 Typical Output Characteristics

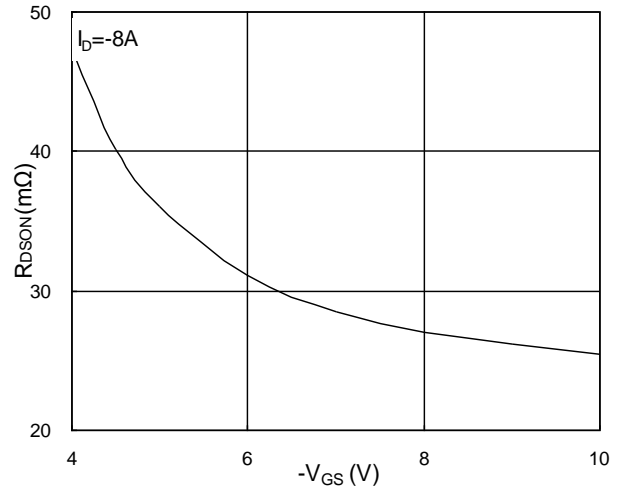


Fig.2 On-Resistance v.s Gate-Source

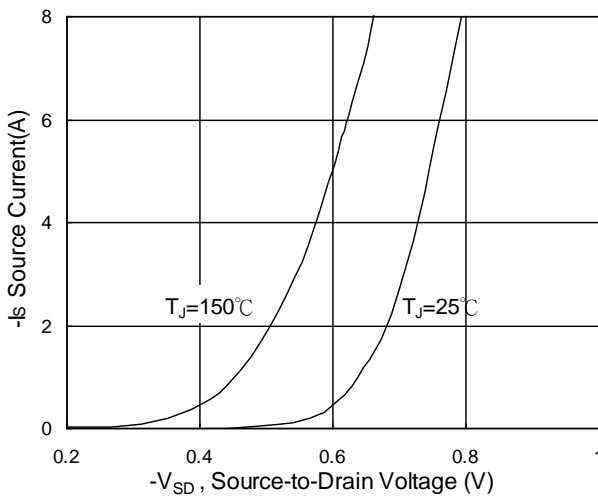


Fig.3 Forward Characteristics Of Reverse

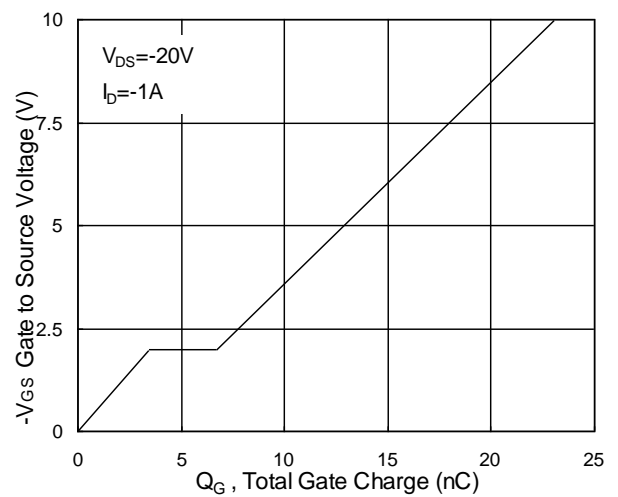


Fig.4 Gate Charge Characteristics

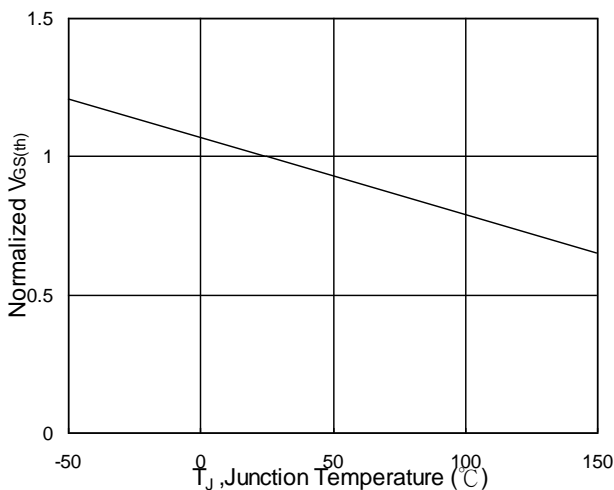


Fig.5 Normalized VGS(th) v.s TJ

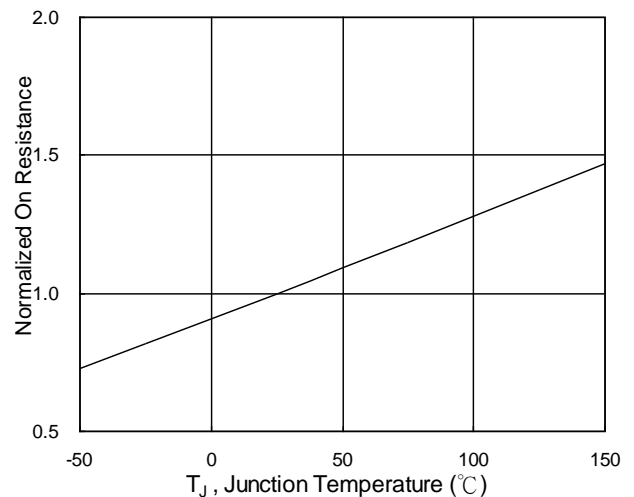


Fig.6 Normalized RDS(on) v.s TJ

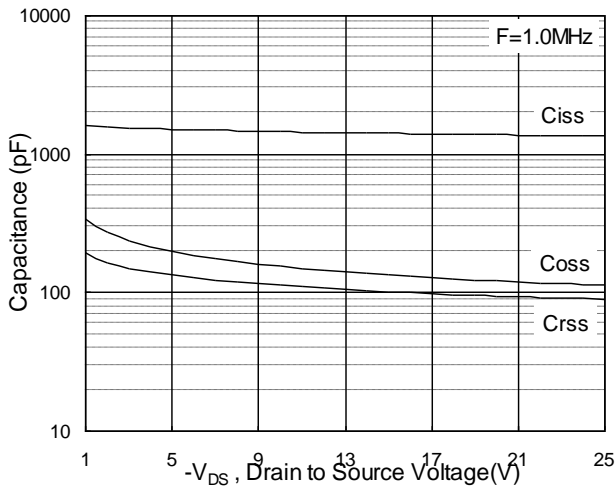


Fig.7 Capacitance

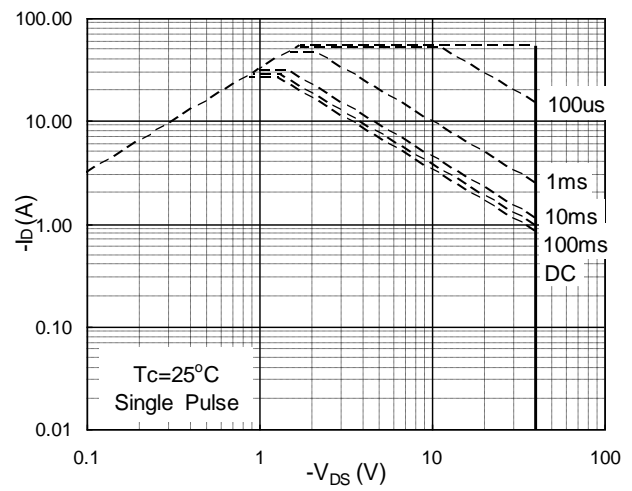


Fig.8 Safe Operating Area

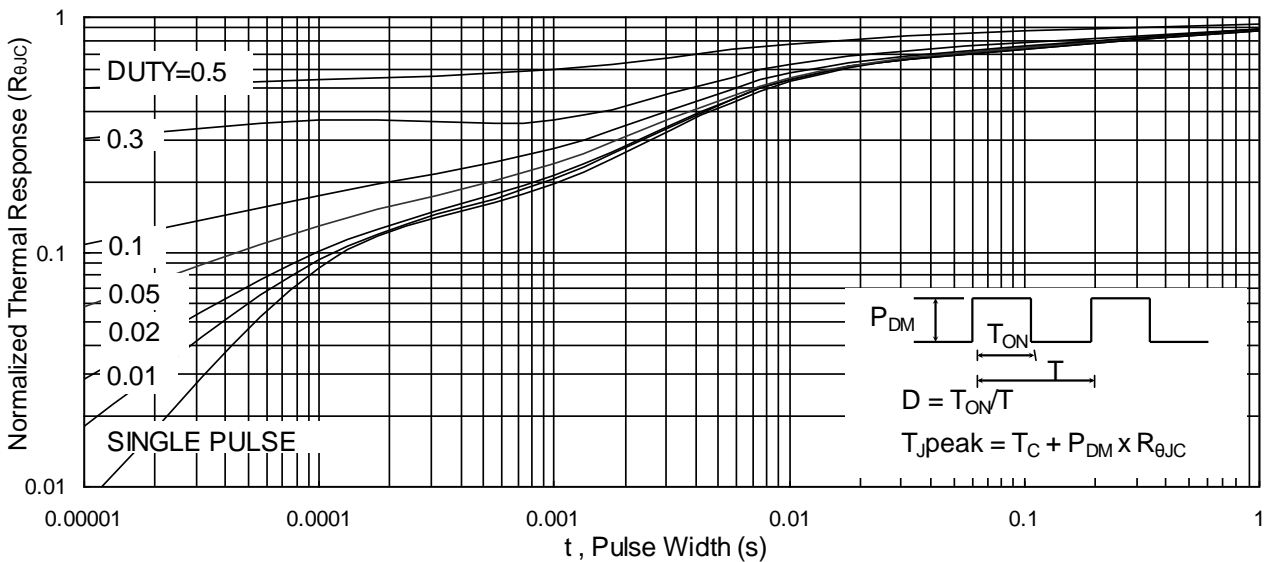


Fig.9 Normalized Maximum Transient Thermal Impedance

Fig.10 Switching Time Waveform

Fig.11 Unclamped Inductive Voltage Waveform

W I P D Z v] W0-252ŠL

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.860	0.026	0.034
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 TYP.		0.190 TYP.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 TYP.		0.114 TYP.	
L2	1.400	1.700	0.055	0.067
L3	1.600 TYP.		0.063 TYP.	
L4	0.600	1.000	0.024	0.039
-	1.100	1.300	0.043	0.051
	e	e	e	e
h	0.000	0.300	0.000	0.012
V	5.350 TYP.		0.211 TYP.	