

Electrical Characteristics(T_j = 25°C Unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV _{DSS}	600	-	-	V	V _{GS} =0, I _D =250uA -
		650	-	-	V	V _{GS} =0, I _D =250uA A
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _j	-	0.6	-	V/°C	Reference to 25°C, I _D =1mA
Gate Threshold Voltage	V _{GS(th)}	2.0	-	4.0	V	V _{DS} =V _{GS} , I _D =250uA
Forward Transconductance	g _{fs}	-	4.5	-	S	V _{DS} =10V, I _D =3.5A
Gate-Source Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} = ±30V
Drain-Source Leakage Current(T _j =25°C)	I _{DSS}	-	-	10	uA	V _{DS} =600V, V _{GS} =0
Drain-Source Leakage Current(T _j =150°C)		-	-	100	uA	V _{DS} =480V, V _{GS} =0
Static Drain-Source On-Resistance	R _{DS(ON)}	-	-	1.0	Ω	V _{GS} =10V, I _D =3.5A
Total Gate Charge ³	Q _g	-	53	85	nC	I _D =10A V _{DS} =520V V _{GS} =10V
Gate-Source Charge	Q _{gs}	-	10	-		
Gate-Drain ("Miller") Change	Q _{gd}	-	15	-		
Turn-on Delay Time ³	T _{d(on)}	-	16	-	Ns	V _{DD} =320V I _D =10A V _{GS} =10V R _G =10Ω R _D =30Ω
Rise Time	T _r	-	20	-		
Turn-off Delay Time	T _{d(off)}	-	82	-		
Fall Time	T _f	-	36	-		
Input Capacitance	C _{iss}	-	2770	4430	pF	V _{GS} =0V V _{DS} =15V f=1.0MHz
Output Capacitance	C _{oss}	-	320	-		
Reverse Transfer Capacitance	C _{rss}	-	8	-		

Source-Drain Diode

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage ³	V _{SD}	-	-	1.5	V	I _S =10A, V _{GS} =0V, T _j =25°C
Reverse Recovery Time ³	T _{rr}	-	610	-	ns	I _S =10A, V _{GS} =0V di/dt=100A/μs
Reverse Recovery Charge	Q _{rr}	-	8.64	-	uC	

Notes: 1. Pulse width limited by safe operating area.

2. Staring T_j=25°C, V_{DD}=50V, L=1.2mH, R_G=25Ω, I_{AS}=10A.

3. Pulse width ≤ 300us, duty cycle ≤ 2%.

Characteristics Curve

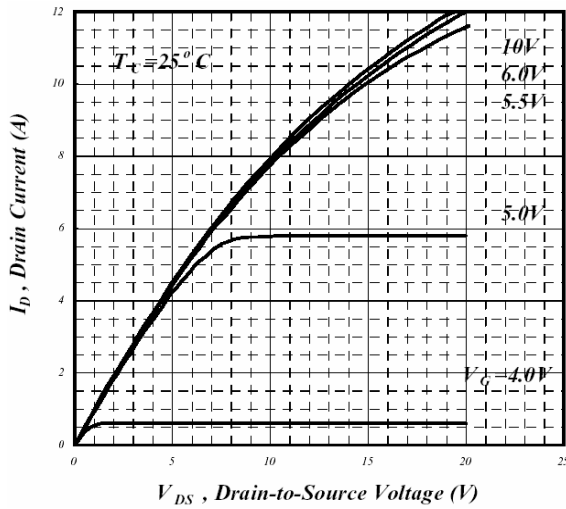


Fig 1. Typical Output Characteristics

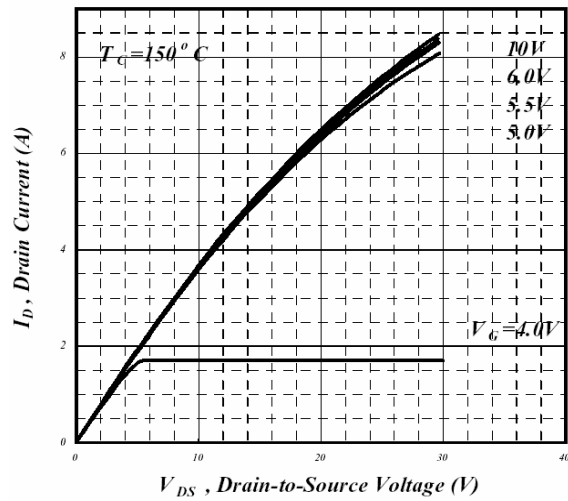


Fig 2. Typical Output Characteristics

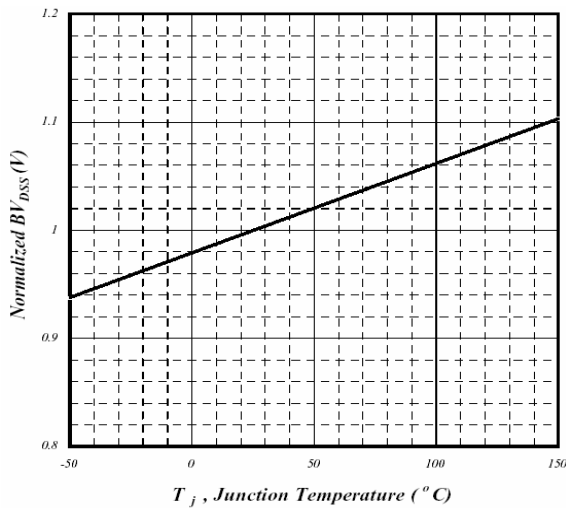


Fig 3. Normalized BV_{DSS} v.s. Junction Temperature

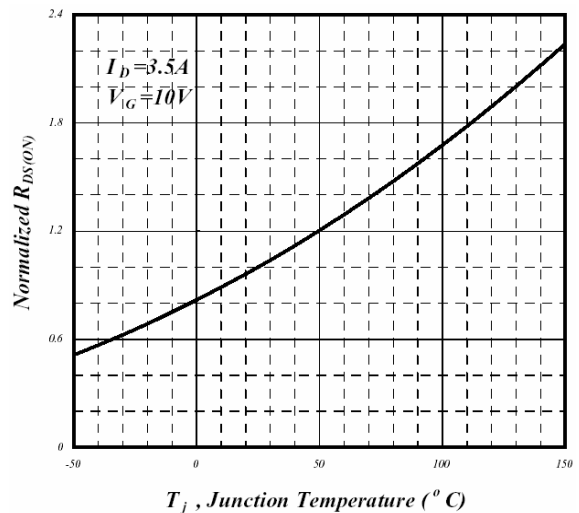


Fig 4. Normalized On-Resistance v.s. Junction Temperature

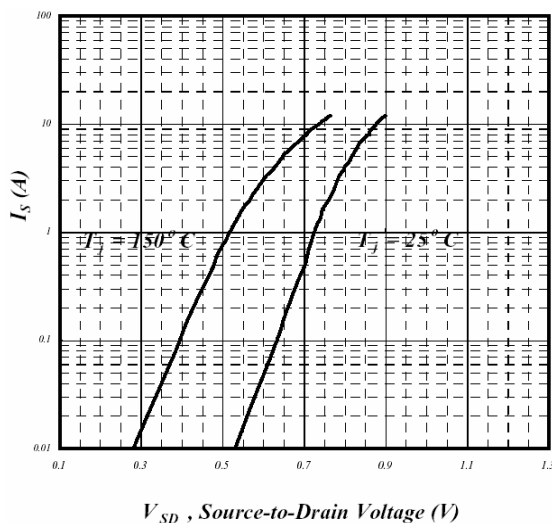


Fig 5. Forward Characteristics of Reverse Diode

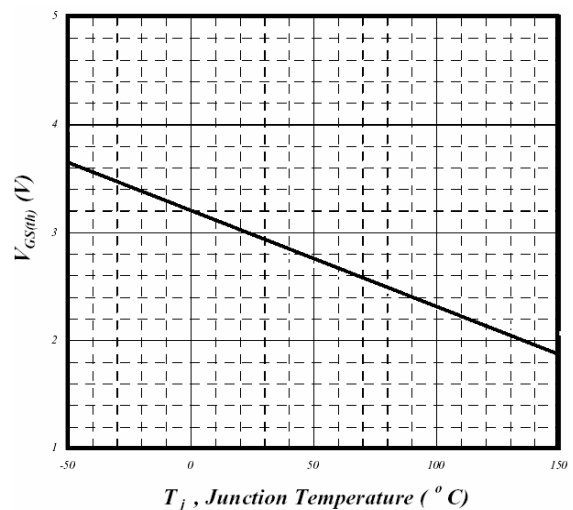


Fig 6. Gate Threshold Voltage v.s. Junction Temperature

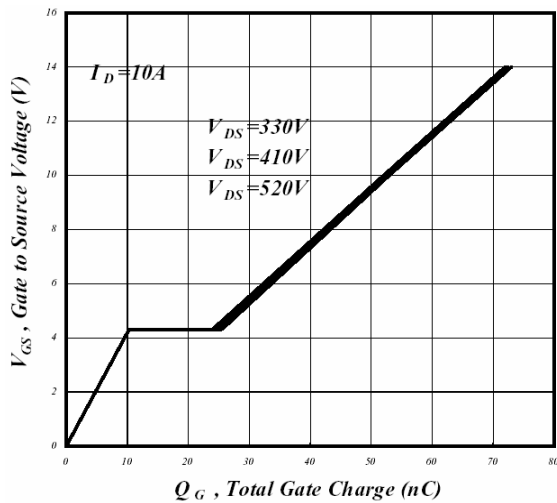


Fig 7. Gate Charge Characteristics

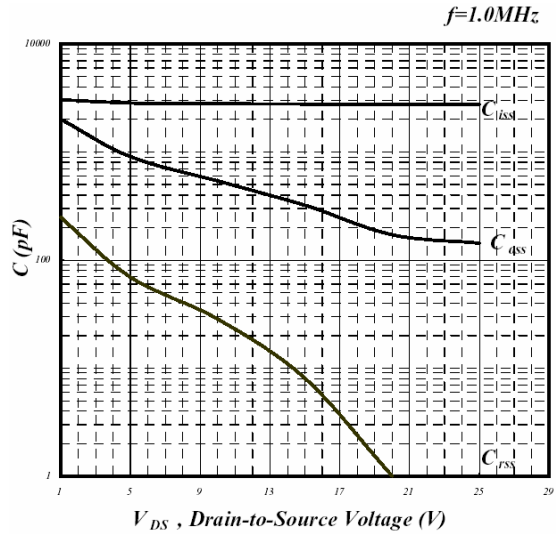


Fig 8. Typical Capacitance Characteristics

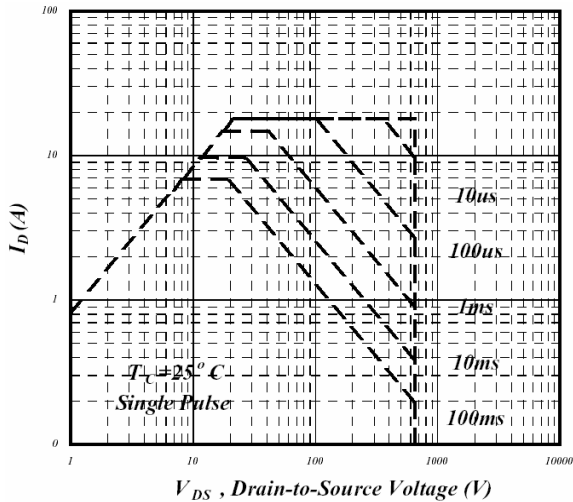


Fig 9. Maximum Safe Operating Area

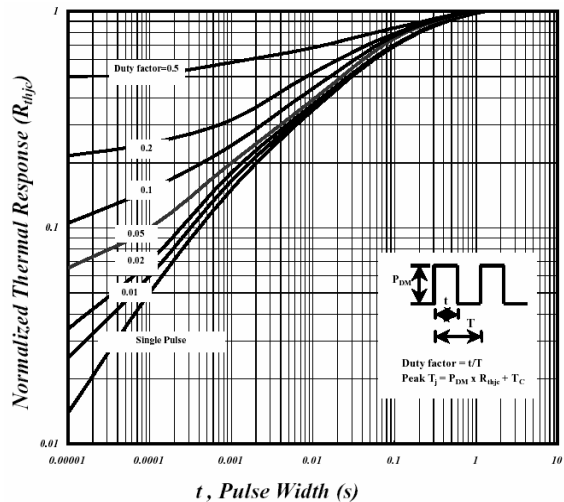


Fig 10. Effective Transient Thermal Impedance

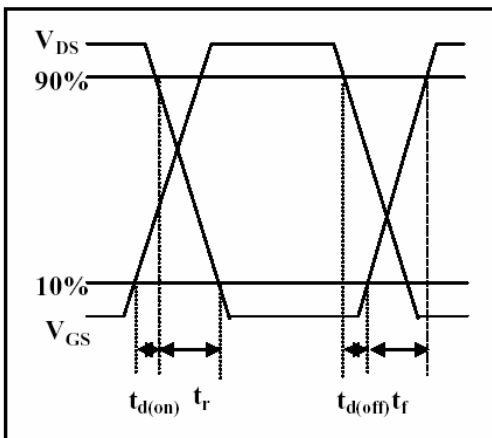


Fig 11. Switching Time Waveform

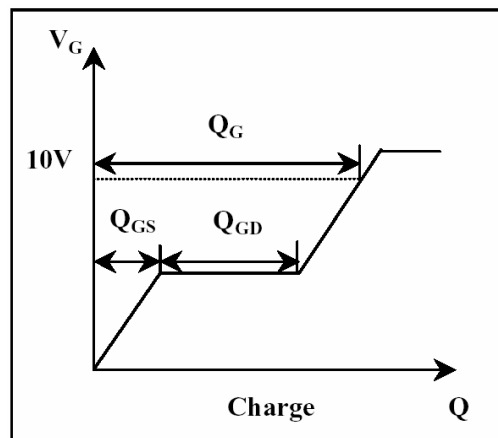


Fig 12. Gate Charge Waveform

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Head Office And Factory:

- Taiwan:** No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.
- TEL : 886-3-597-7061 FAX : 886-3-597-9220, 597-0785
- China:** (201203) No.255, Jang-Jiang Tsai-Lueng RD. , Pu-Dung-Hsin District, Shang-Hai City, China
- TEL : 86-21-5895-7671 ~ 4 FAX : 86-21-38950165