

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV _{DSS}	25	-	-	V	V _{GS} =0, I _D =250uA
Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS} / \Delta T_j$	-	0.032	-	V/°C	Reference to 25°C, I _D =1mA
Gate Threshold Voltage	V _{GS(th)}	1.0	-	3.0	V	V _{DS} =V _{GS} , I _D =250uA
Forward Transconductance	g _{fs}	-	35	-	S	V _{DS} =10V, I _D =33A
Gate-Source Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} = ±20V
Drain-Source Leakage Current(T _j =25°C)	I _{DSS}	-	-	1	uA	V _{DS} =25V, V _{GS} =0
Drain-Source Leakage Current(T _j =175°C)		-	-	250	uA	V _{DS} =20V, V _{GS} =0
Static Drain-Source On-Resistance	R _{DS(ON)}	-	-	10	mΩ	V _{GS} =10V, I _D =33A
		-	-	18		V _{GS} =4.5V, I _D =20A
Total Gate Charge ²	Q _g	-	16.5	-	nC	I _D =33A V _{DS} =20V V _{GS} =4.5V
Gate-Source Charge	Q _{gs}	-	5	-		
Gate-Drain ("Miller") Charge	Q _{gd}	-	10.3	-		
Turn-on Delay Time ²	T _{d(on)}	-	8.2	-	ns	V _{DS} =15V I _D =33A V _{GS} =10V R _G =3.3Ω R _D =0.45Ω
Rise Time	T _r	-	105	-		
Turn-off Delay Time	T _{d(off)}	-	21.4	-		
Fall Time	T _f	-	8.5	-		
Input Capacitance	C _{iss}	-	1485	-	pF	V _{GS} =0V V _{DS} =25V f=1.0MHz
Output Capacitance	C _{oss}	-	245	-		
Reverse Transfer Capacitance	C _{rss}	-	170	-		

Source-Drain Diode

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage ²	V _{SD}	-	-	1.3	V	I _S =60A, V _{GS} =0V, T _j =25°C
Continuous Source Current (Body Diode)	I _S	-	-	60	A	V _D =V _G =0V, V _S =1.3V
Pulsed Source Current (Body Diode) ¹	I _{SM}	-	-	195	A	

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

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

Characteristics Curve

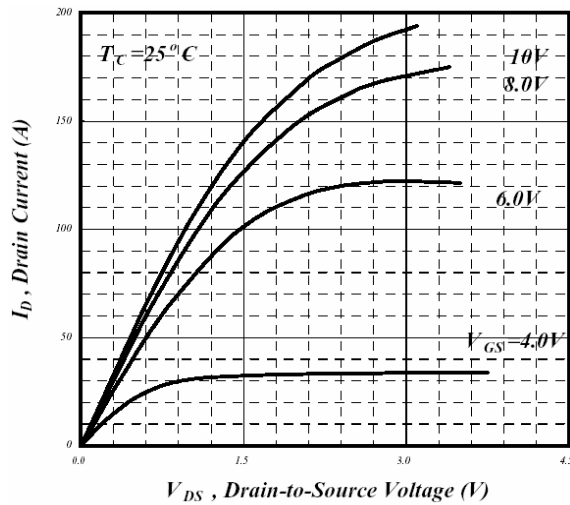


Fig 1. Typical Output Characteristics

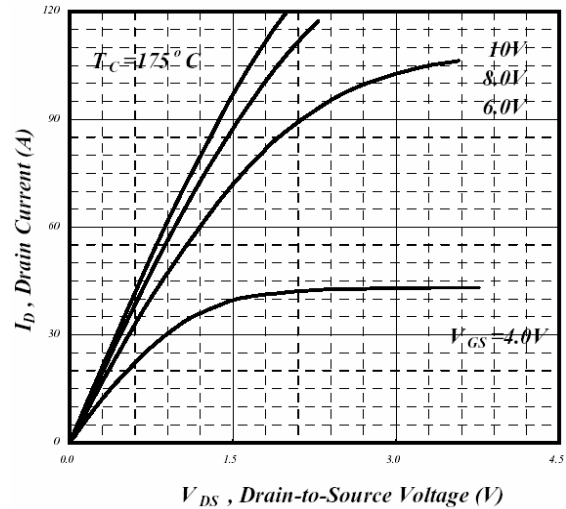


Fig 2. Typical Output Characteristics

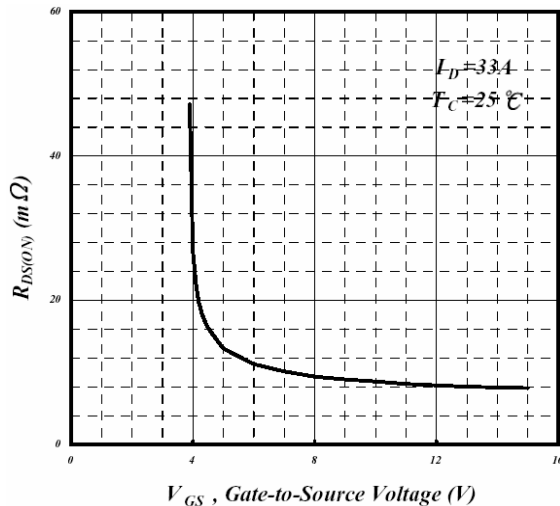


Fig 3. On-Resistance v.s. Gate Voltage

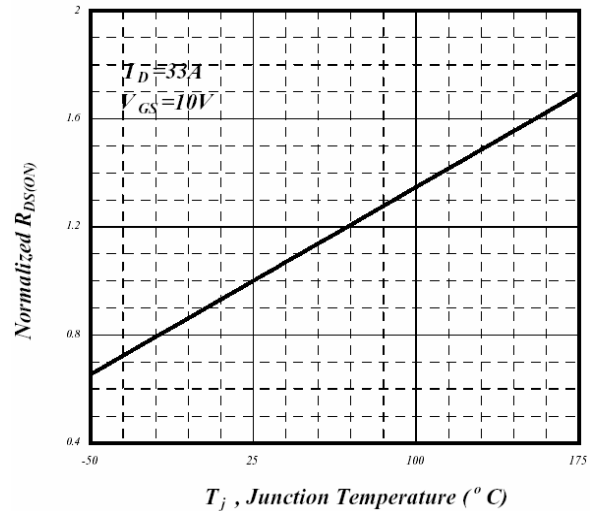


Fig 4. Normalized On-Resistance
v.s. Junction Temperature

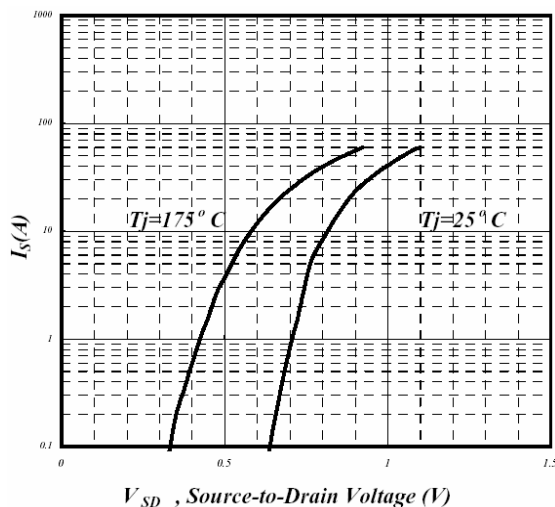


Fig 5. Forward Characteristics of
Reverse Diode

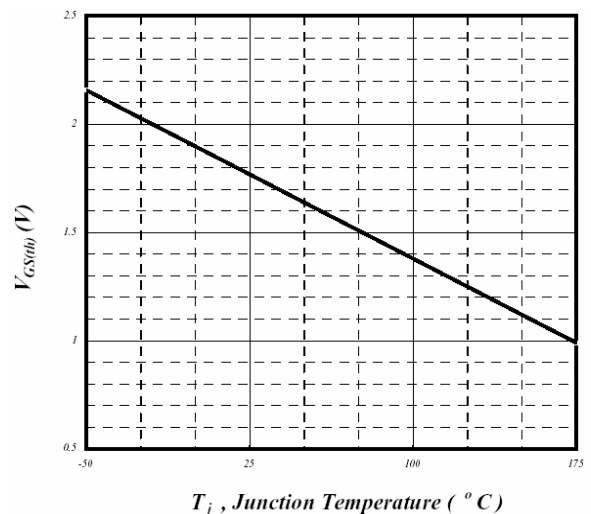


Fig 6. Gate Threshold Voltage v.s.
Junction Temperature

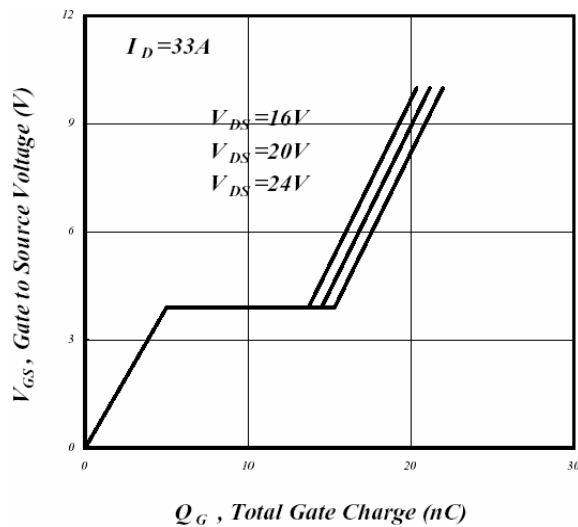


Fig 7. Gate Charge Characteristics

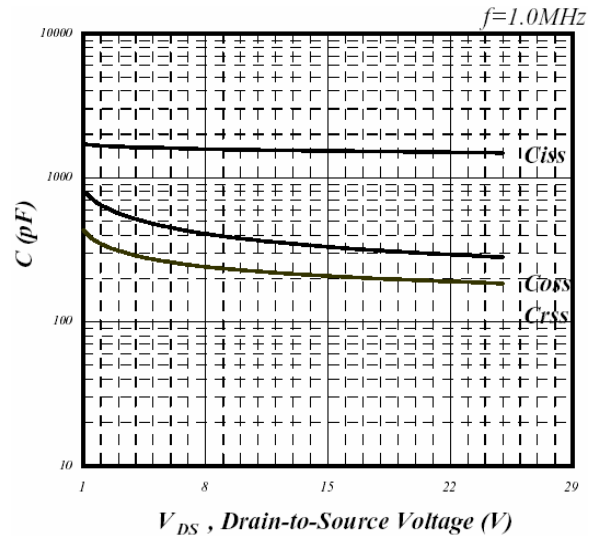


Fig 8. Typical Capacitance Characteristics

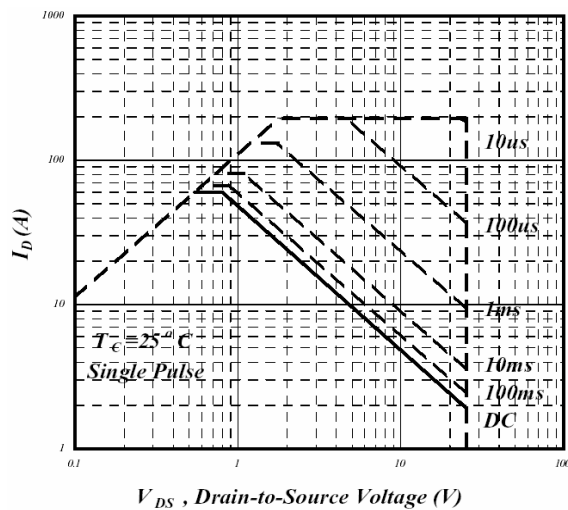


Fig 9. Maximum Safe Operating Area

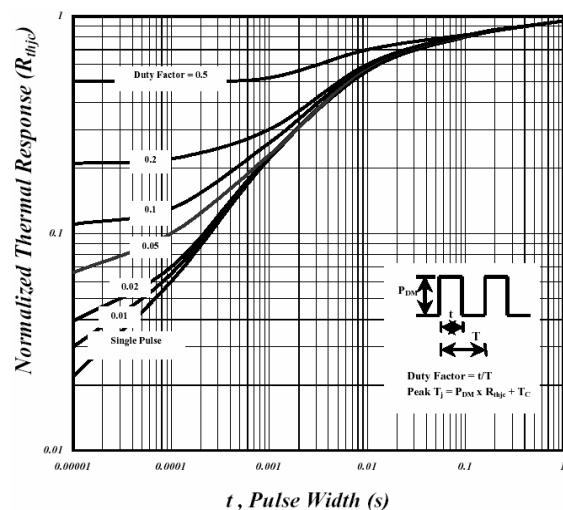


Fig 10. Effective Transient Thermal Impedance

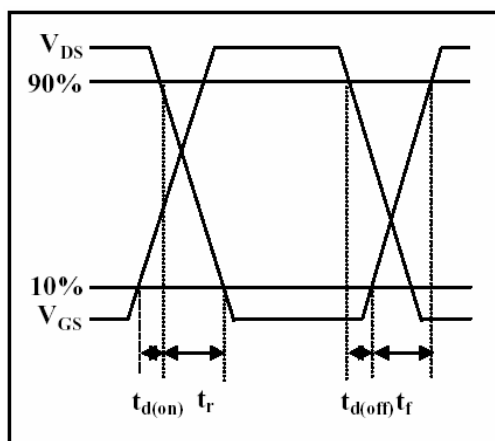


Fig 11. Switching Time Waveform

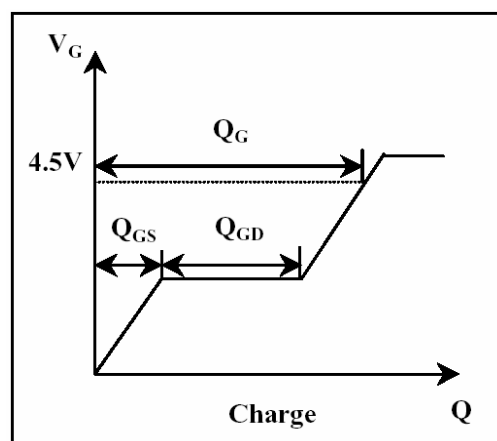


Fig 12. Gate Charge Waveform

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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