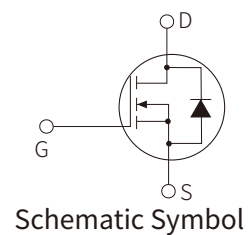
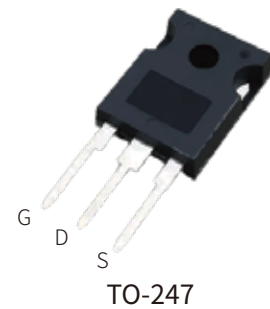


FEATURES

- | Multi-Epi Super Junction MOSFET
- | Fast Switching
- | Easy to Drive/Use

APPLICATION

- | SMPS
- | Motor Drivers
- | Charger/Power Supply
- | UPS



APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage $T_c=25^\circ\text{C}$	V_{DS}	650	V
Drain Current Pulse $T_c=25^\circ\text{C}$	$I_{DS, pulse}$	69	A
Drain Current Continuous	I_{DS}	$T_c=25^\circ\text{C}$ 25	A
		$T_c=100^\circ\text{C}$ 16	A
Gate - Source Voltage DC	V_{GS}	± 20	V
Gate - Source Voltage $f > 1\text{Hz}$	V_{GS}	± 30	V
Power Dissipation $T_c=25^\circ\text{C}$	P_D	185	W
Thermal Resistance Junction - Case	$R_{th(J-C)}$	0.68	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	-40 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to 150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	650			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	3.5	4.0	4.5	V
Drain Leakage Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V, T _J =25°C		0.01		μA
		V _{DS} =650V, V _{GS} =0V, T _J =150°C		12.7		μA
Gate Leakage Current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V			±70	nA
On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =8A, T _J =25°C		130	140	mΩ
		V _{GS} =10V, I _D =8A, T _J =150°C		298	329	mΩ
Gate Resistance	R _G	f=1MHz, Open Drain		4.9		Ω
Body Diode Reverse Characteristics						
Diode Forward Voltage	V _{SD}	I _F =8A, V _{GS} =0V, T _J =25°C		0.8		V
Reverse Recovery Time	t _{rr}	V _P =400V, I _S =8A, d _{IF} /d _t = 100A/μs See Fig. E and Fig. F		402		nS
Reverse Recovery Charge	Q _{rr}			6.8		μC
Peak Reverse Recovery Current	I _{rrm}			34		A
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =400V, f= 250kHz		1943		pF
Output capacitance	C _{oss}			50		pF
Reverse transfer capacitance	C _{rss}			3.6		pF
Turn-on Delay Time	t _{d(on)}	V _P =400V, V _{GS} =12V R _G = 10Ω, I _{DS} =8A See Fig. A and Fig. B		55		nS
Turn-on Rise Time	t _r			20		nS
Turn-Off Delay Time	t _{d(off)}			124		nS
Turn-Off Fall Time	t _f			24		nS
Gate Charge Characteristics						
Total Gate Charge	Q _g	V _P =400V, I _D =8A, V _{GS} = 0 - 12 V See Fig. C and Fig. D		62		nC
Gate-Source Charge	Q _{gs}			16		nC
Gate-Drain Charge	Q _{gd}			18		nC
Gate Plateau Voltage	V _{Plat}			5.9		V

PARAMETER CHARACTERISTIC CURVE

Fig1: Output Characteristics

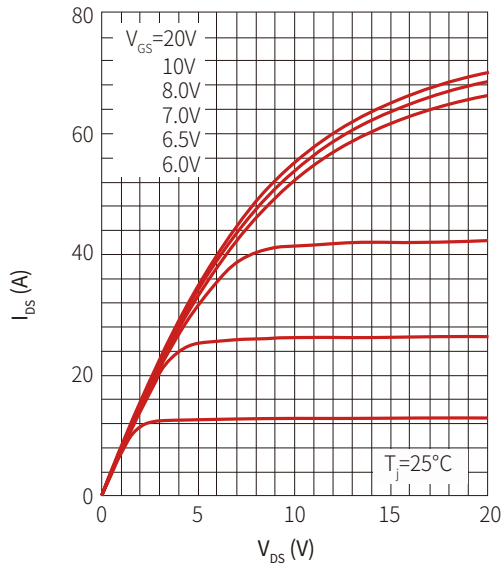


Fig2: Output Characteristics

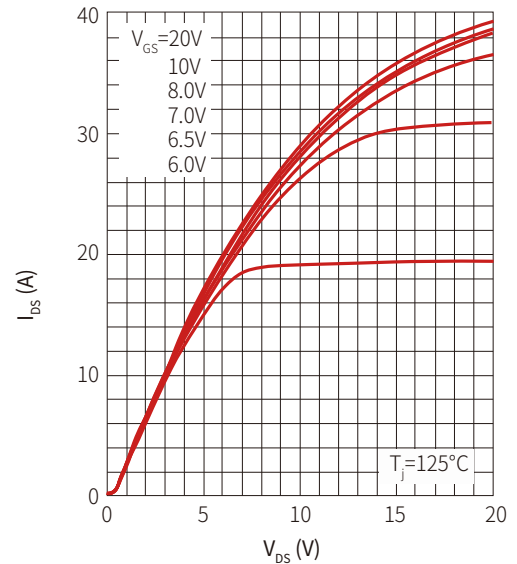


Fig3: $R_{DS(ON)}$ vs. Junction Temperature

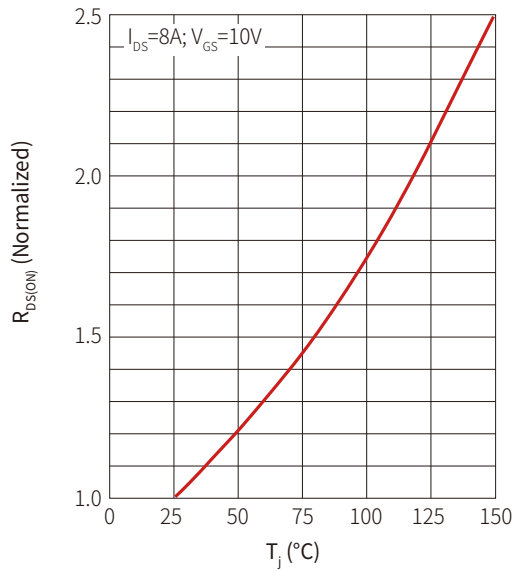


Fig4: Forward Characteristics of Body Diode

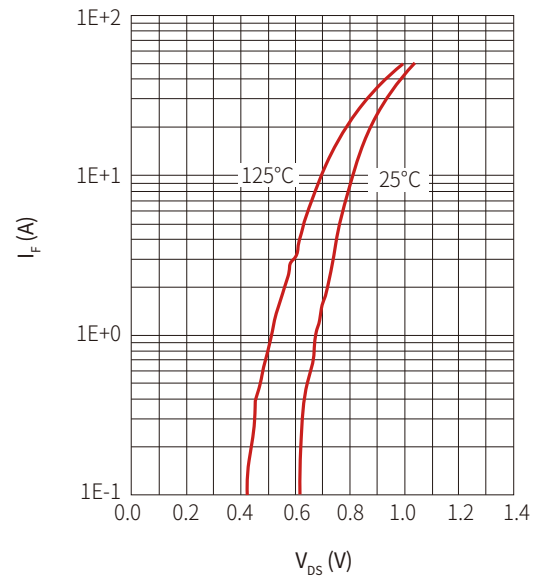


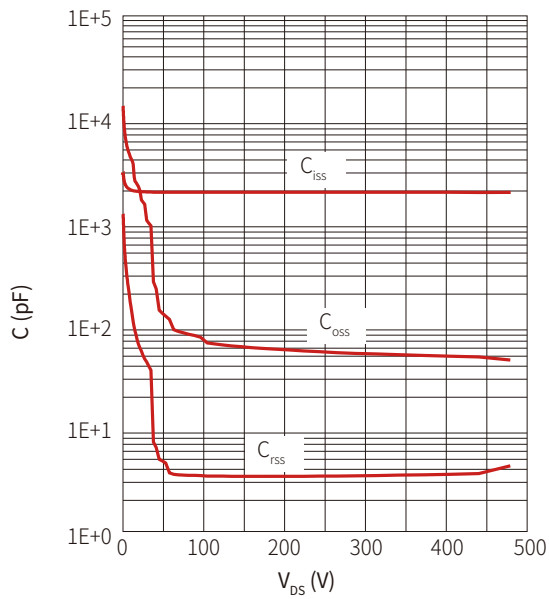
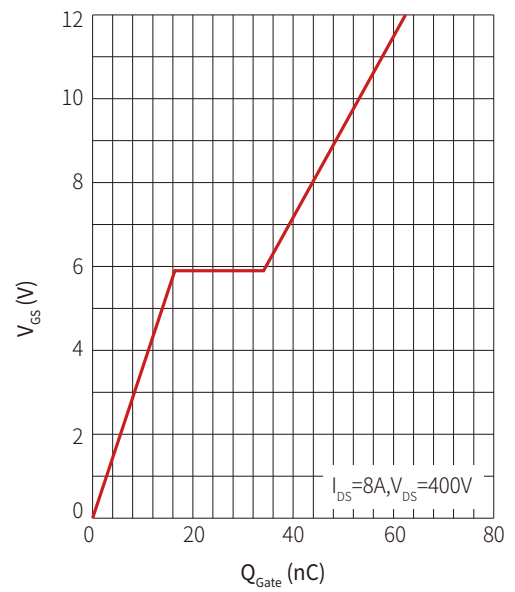
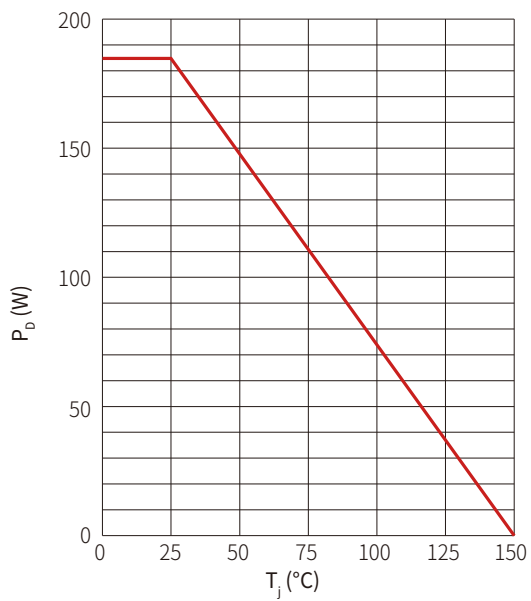
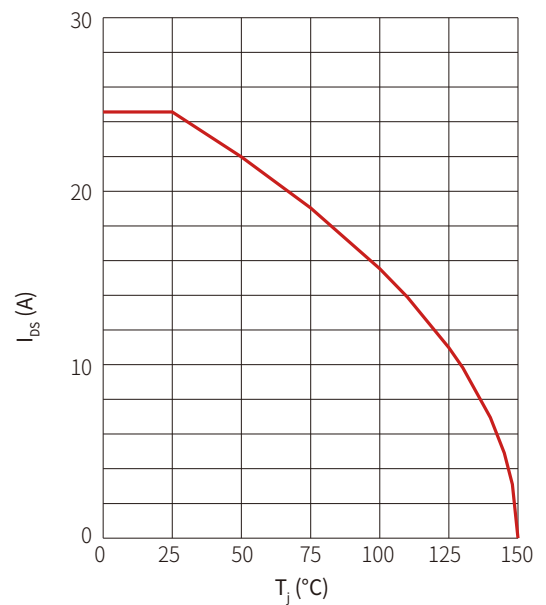
Fig5:Capacitance vs. V_{DS}

Fig6: Gate Charge

Fig7:Power Dissipation Derating Curve

Fig8: Drain Current Derating Curve


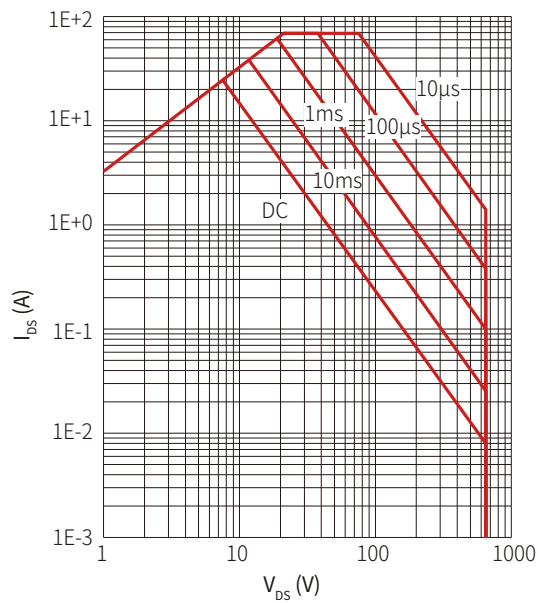
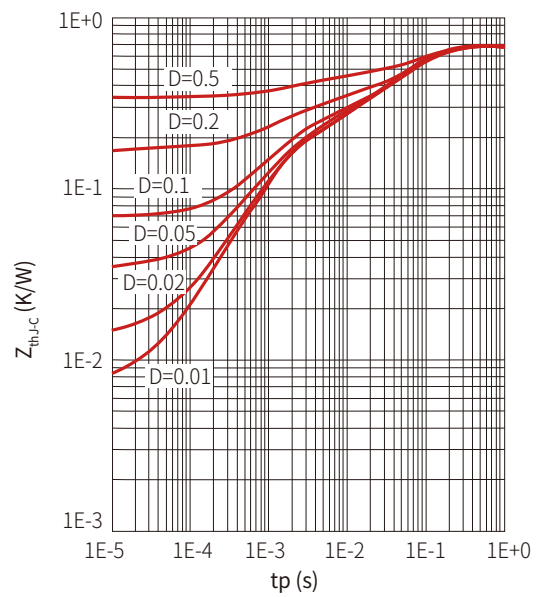
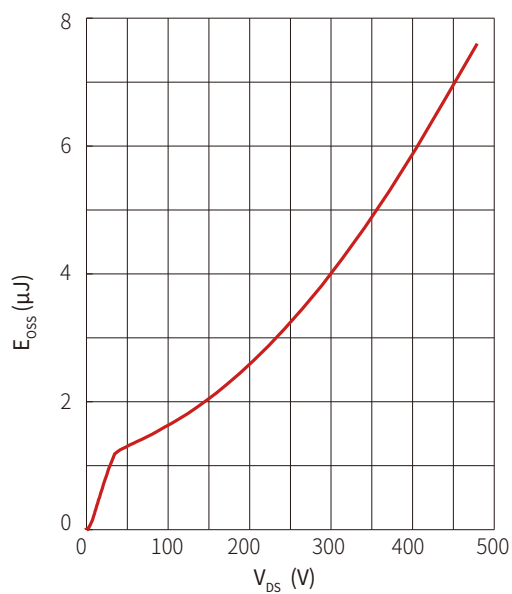
Fig9 :Safe Operating Area

Fig10 : Z_{thJ-C}, D = tP / T

Fig11 :E_{oss} Curve


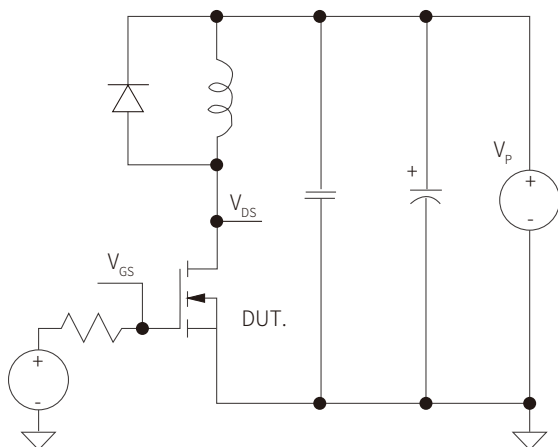
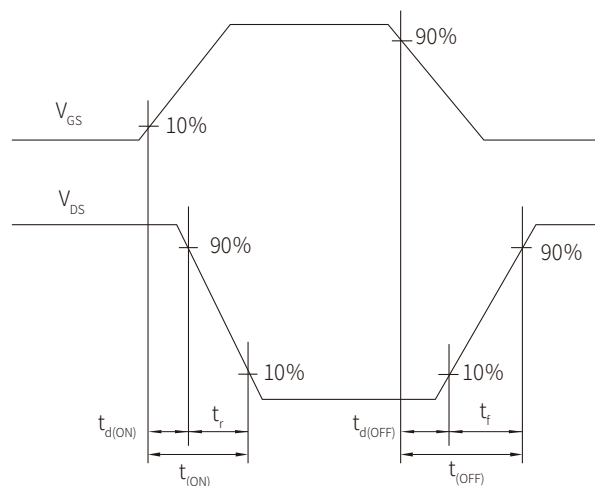
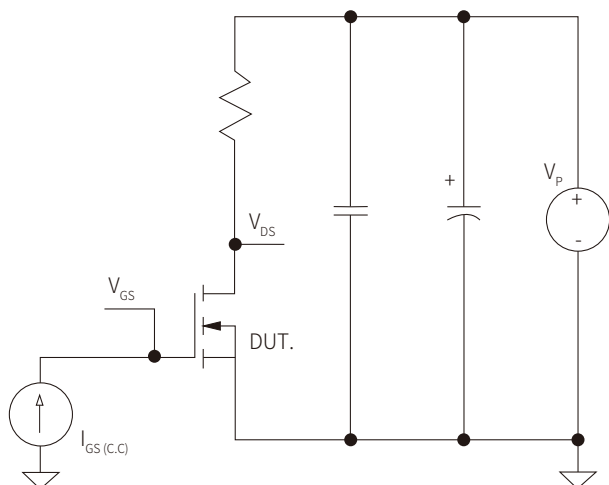
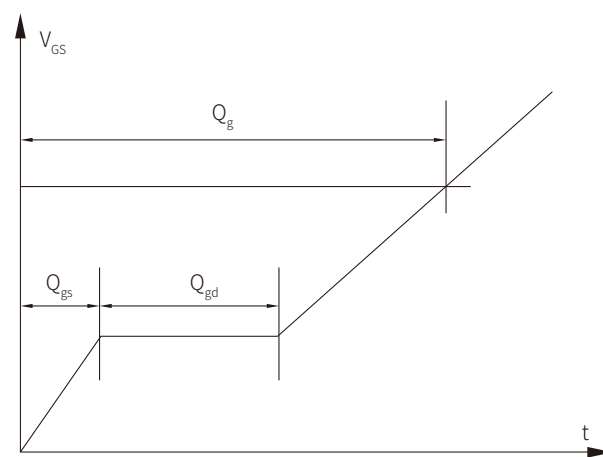
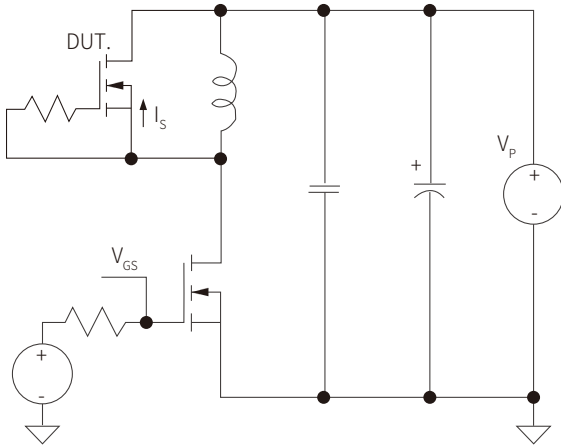
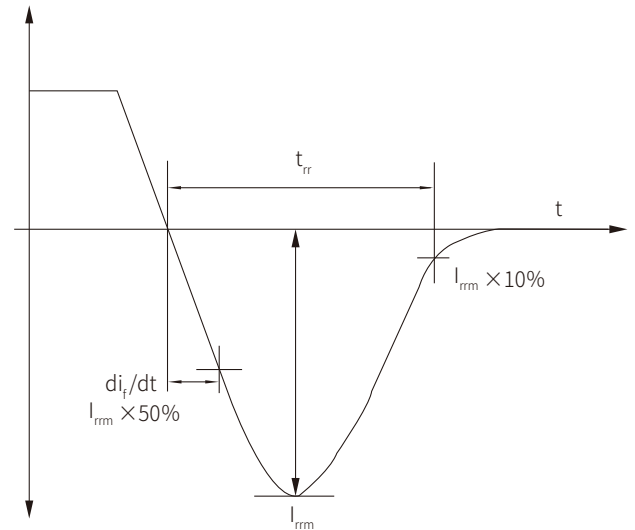
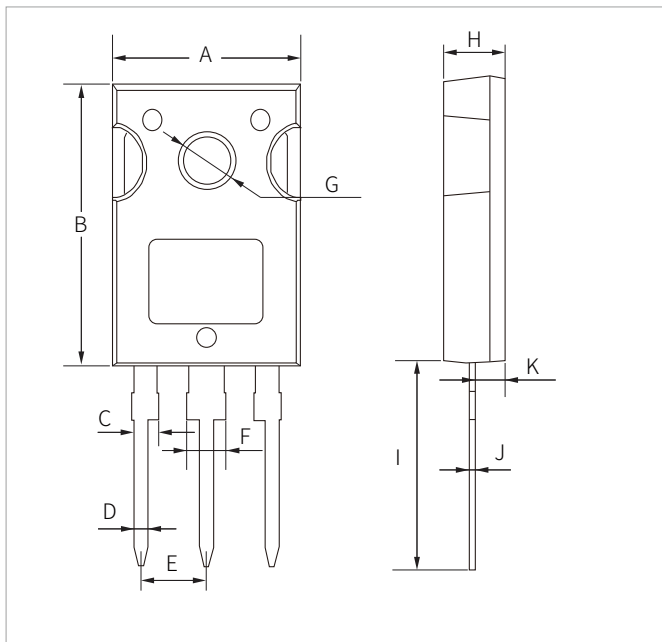
Fig.A Switching Times Test Circuit

Fig.B Switching Times Waveform

Fig.C Gate Charge Test Circuit

Fig.D Gate Charge Waveform


Fig.E Body Diode Recovery Test Circuit

Fig.F Body Diode Recovery waveform


TO-247 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.4	15.8	0.606	0.662
B	19.5	20.5	0.767	0.807
C	1.8	2.2	0.070	0.087
D	1.15	1.25	0.045	0.050
E	5.2	5.7	0.204	0.225
F	2.8	3.2	0.110	0.126
G	3.4	3.8	0.133	0.149
H	4.8	5.2	0.188	0.205
I	14.0	14.5	0.550	0.570
J	0.4	0.7	0.015	0.029
K	2.4		0.095	

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Tube	QTY/Box	QTY/Carton
SNM25N65J	TO-247	 25N65 XXXX	30PCS	450PCS	2250PCS

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By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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