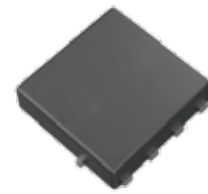


FEATURES

- | Surface-mounted package
- | Advanced trench cell design



PDFN3×3-8L

APPLICATION

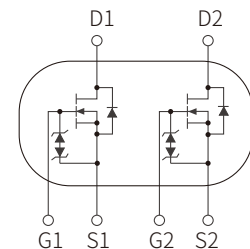
- | MB and NB
- | Half – bridge Drivers
- | Motor drivers



Marking

APPROVALS

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



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage $T_c=25^\circ\text{C}$	V_{DS}	16	V
Drain Current (Pulsed) $T_c=25^\circ\text{C}, V_{GS}=10\text{V}$	I_{DM}^{***}	92	A
Drain Current (DC)	I_D^*	$T_c=25^\circ\text{C}, V_{GS}=10\text{V}$	50
		$T_c=100^\circ\text{C}, V_{GS}=10\text{V}$	21
Gate-Source Voltage $T_c=25^\circ\text{C}$	V_{GS}	± 10	V
Total Power Dissipation $T_c=25^\circ\text{C}$	P_{tot}^*	7.8	W
Diode Forward Current $T_c=25^\circ\text{C}$	I_S	50	A
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^\circ\text{C}$
Thermal Resistance- Junction to Ambient	$R_{\theta JA}^*$	75	$^\circ\text{C}/\text{W}$
Thermal Resistance- Junction to Case	$R_{\theta JC}^*$	16	$^\circ\text{C}/\text{W}$

Notes:

- * Surface Mounted on 1 in² pad area, $t \leq 10$ sec
- ** Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$
- *** Limited by bonding wire

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 _{DS} =250μA	16			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	0.5		1.0	V
Zero Gate Voltage Source Current	I _{DSS}	V _{DS} =10V, V _{GS} =0V			1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} =0V			±10	μA
Drain-Source On-State Resistance	R _{DS(on)} ^a	V _{GS} =4.5V, I _D =20A		3.3	3.8	mΩ
		V _{GS} =2.5V, I _D =10A		4.5	5.5	mΩ
Diode Characteristics						
Diode Forward Voltage	V _{SD} ^a	I _{SD} =20A, V _{GS} =0V			1.2	V
Dynamic Characteristics^b						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =6V, Frequency = 1 MHz		2468		pF
Output capacitance	C _{oss}			580		pF
Reverse transfer capacitance	C _{rss}			528		pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =6V, V _{GEN} =4.5V R _G =4.5Ω, R _L =0.3Ω, I _D =20A		0.9		μS
Turn-on Rise Time	t _r			2		μS
Turn-Off Delay Time	t _{d(off)}			3.3		μS
Turn-Off Fall Time	t _f			5.7		μS
Gate Charge Characteristics^b						
Total Gate Charge	Q _G	V _{DS} =6V, V _{GS} =4.5V, I _{DS} =20A		40		nC
Gate-Source Charge	Q _{GS}			4.5		nC
Gate-Drain Charge	Q _{gd}			6.9		nC

Notes:

a : Pulse test ; pulse width ≤ 300μs, duty cycle ≤ 2 %

b : Guaranteed by design, not subject to production testing

PARAMETER CHARACTERISTIC CURVE

Figure1: Power Capability

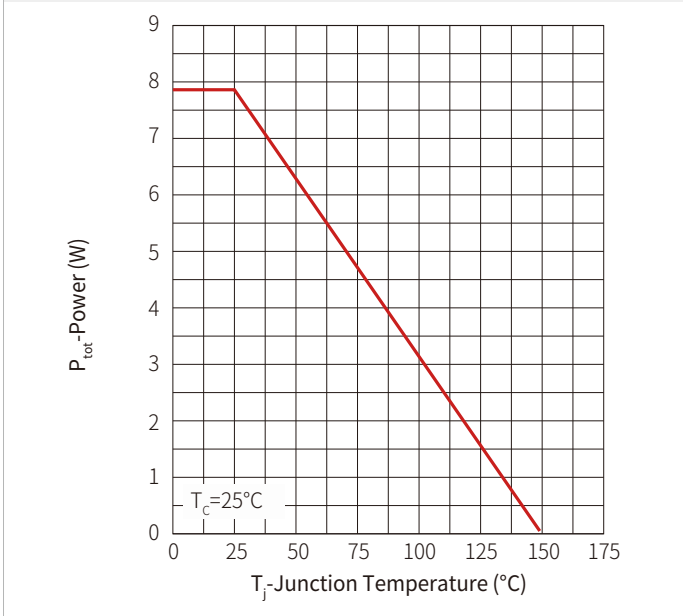


Figure2: Current Capability

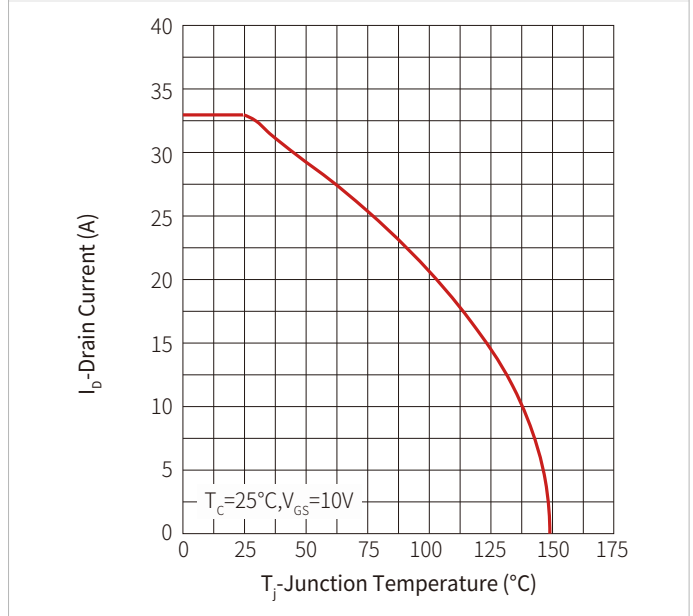


Figure3: Safe Operating Area

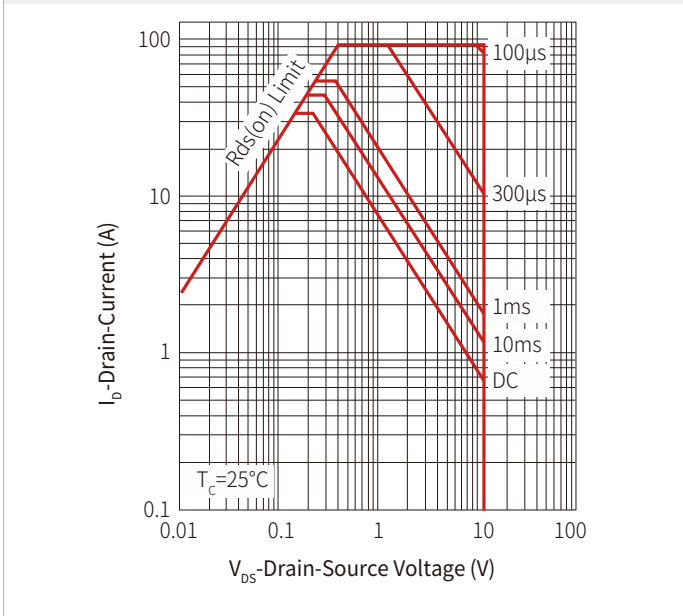


Figure 4: Transient Thermal Impedance

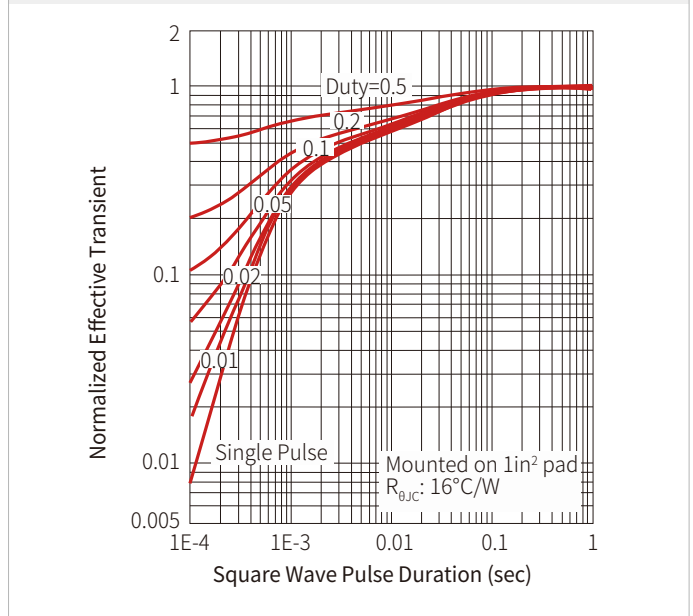


Figure 5: Output Characteristics

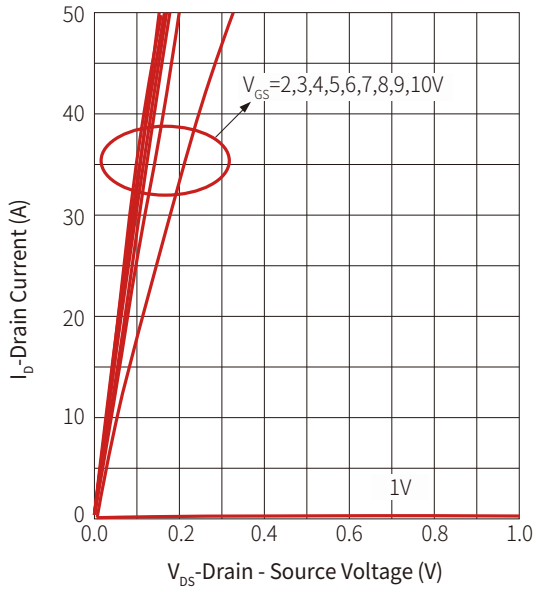


Figure 6: On Resistance

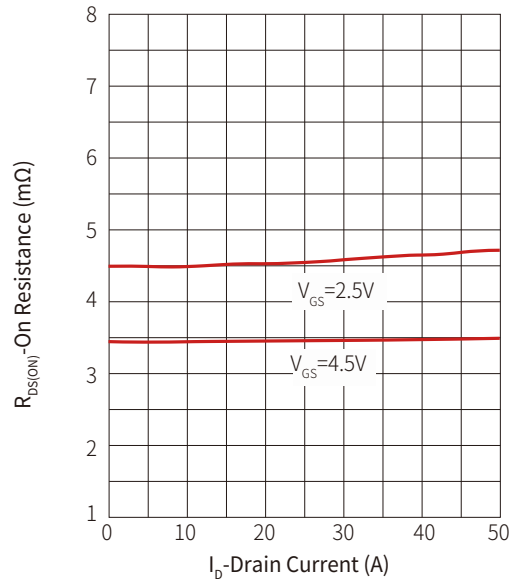


Figure 7: Transfer Characteristics

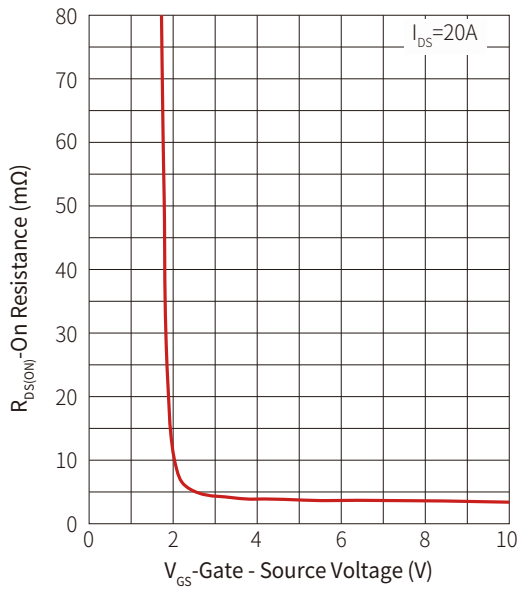


Figure 8: Normalized Threshold Voltage

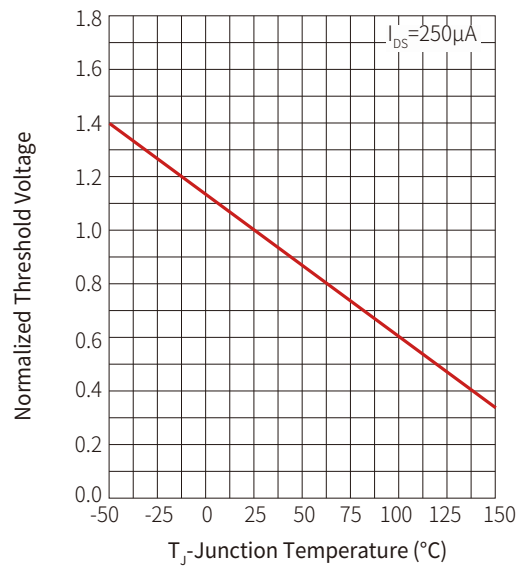


Figure 9: Normalized On Resistance

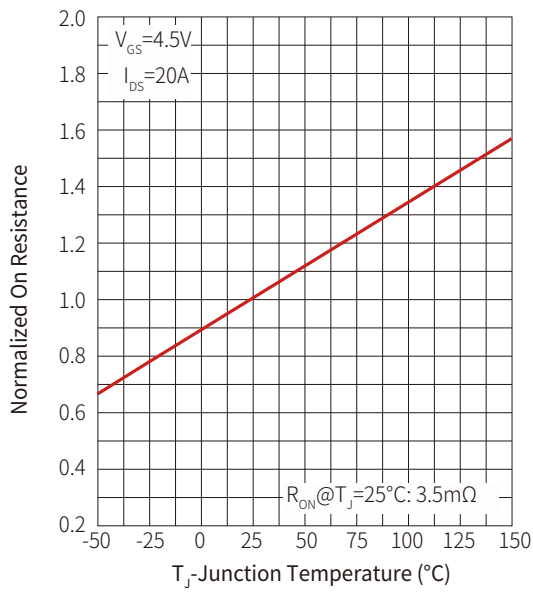


Figure 10: Diode Forward Current

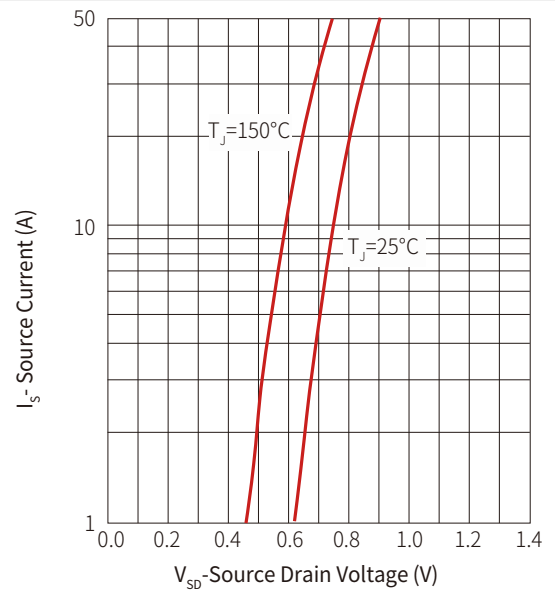


Figure 11: Capacitance

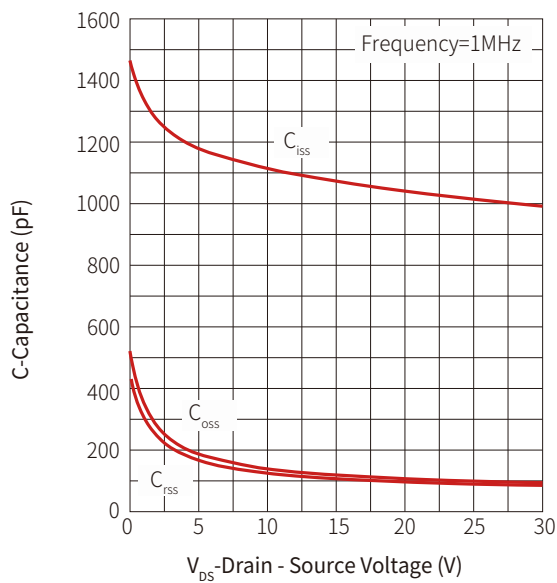
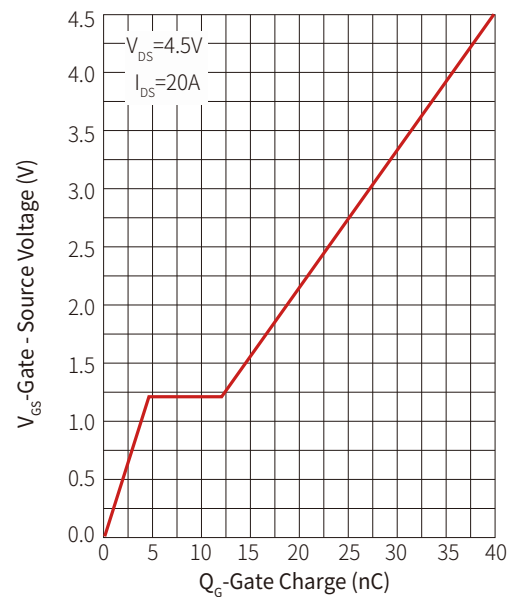
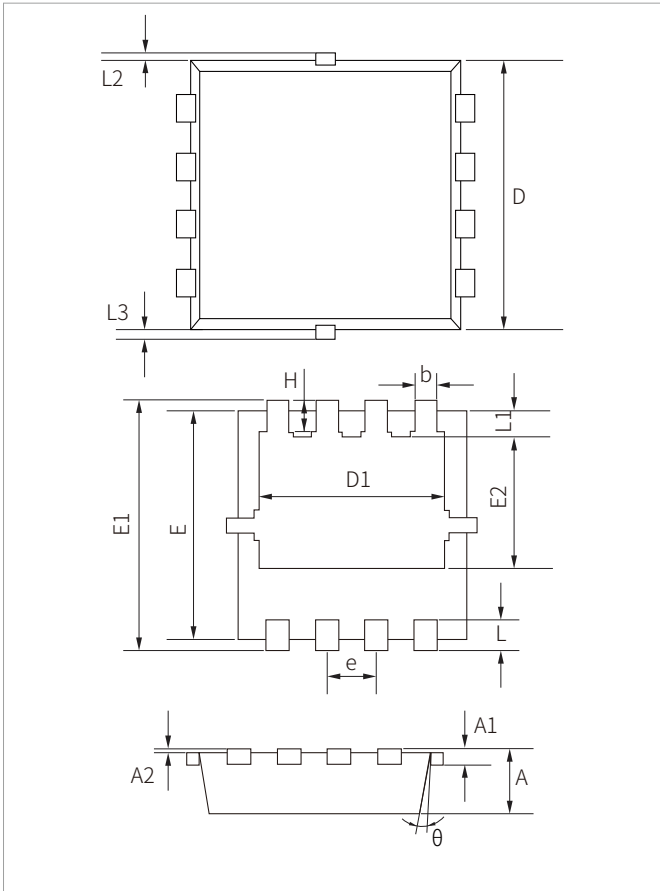


Figure 12: Gate Charge



PDFN3x3-8L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152REF		0.006REF	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM3325Q	PDFN3x3-8L	5000PCS	13"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

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

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.