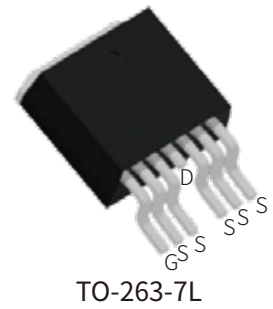


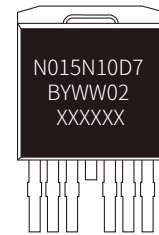
FEATURES

- | Surface-Mounted Package
- | Super Trench
- | Advanced Trench Cell Design



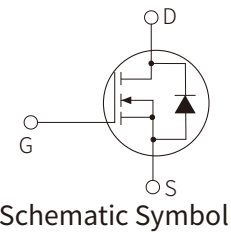
APPLICATION

- | Power Tool Appliances
- | BMS Appliances
- | High Power Inverter System



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}	100	V
Drain Current (Pulsed) $T_c=25^\circ\text{C}$ $V_{GS}=10\text{V}$	I_{DM}^*	1200	A
Drain Current (DC)	I_D	$T_c=25^\circ\text{C}$ $V_{GS}=10\text{V}$	500
		$T_c=100^\circ\text{C}$ $V_{GS}=10\text{V}$	367
Gate-Source Voltage $T_c=25^\circ\text{C}$	V_{GS}	± 20	V
Drain power dissipation $T_c=25^\circ\text{C}$	P_{tot}	500	W
Continuous-Source Current $T_c=25^\circ\text{C}$	I_S	500	A
Junction Temperature	T_J	175	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 175	$^\circ\text{C}$
Single Pulsed Avalanche Energy $V_{DD}=40\text{V}$, $L=0.5\text{mH}$	E_{AS}	2900	mJ
Thermal Resistance – Junction to Ambient	$R_{\theta JA}^{**}$	32	$^\circ\text{C}/\text{W}$
Thermal Resistance- Junction to Case	$R_{\theta JC}^{**}$	0.45	$^\circ\text{C}/\text{W}$

Notes:

- * Pulse width $\leq 300\text{ us}$, duty cycle $\leq 2\%$
- ** Surface Mounted on minimum footprint pad area.
- *** Limited by bonding wire

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _{DS} =250μA	100			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	2		4	V
Drain Leakage Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V			1	uA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
On-State Resistance	R _{DS(on)} ^a	V _{GS} =10V, I _{DS} =50A		1.4	1.6	mΩ
Diode Characteristics						
Diode Forward Voltage	V _{SD} ^a	I _{SD} =50A, V _{GS} =0V			1.2	V
Reverse Recovery Time	t _{rr}	I _{SD} =50A, V _{GS} =0V dI _{SD} /dt=100A/μs		100		nS
Reverse Recovery Charge	Q _{rr}			280		nC
Dynamic Characteristics^b						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =50V, Frequency = 1 MHz		14260		pF
Output capacitance	C _{oss}			1715		pF
Reverse transfer capacitance	C _{rss}			328		pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =50V, V _{GEN} =10V R _G =4.5Ω, R _L =1Ω, I _{DS} =50A		34		nS
Turn-on Rise Time	t _r			26		nS
Turn-Off Delay Time	t _{d(off)}			78		nS
Turn-Off Fall Time	t _f			30		nS
Gate Charge Characteristics^b						
Total Gate Charge	Q _G	V _{DS} =50V, V _{GS} =10V, I _{DS} =50A		224		nC
Gate-Source Charge	Q _{GS}			80		nC
Gate-Drain Charge	Q _{gd}			38		nC

Notes:

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

b : Guaranteed by design, not subject to production testing

PARAMETER CHARACTERISTIC CURVE

Figure1: Power Capability

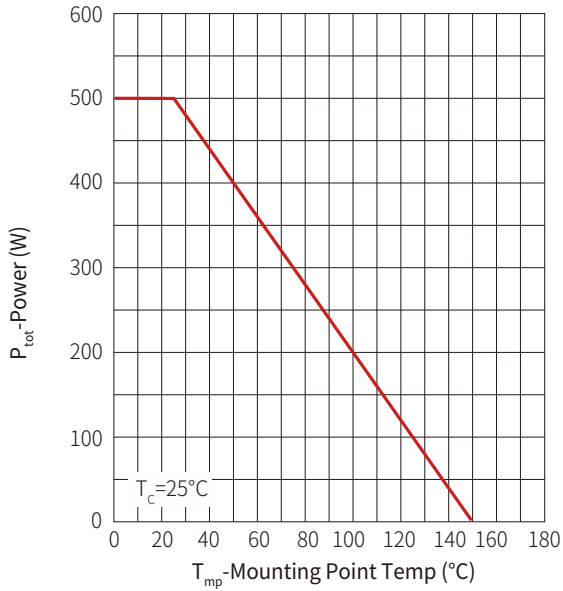


Figure2: Current Capability

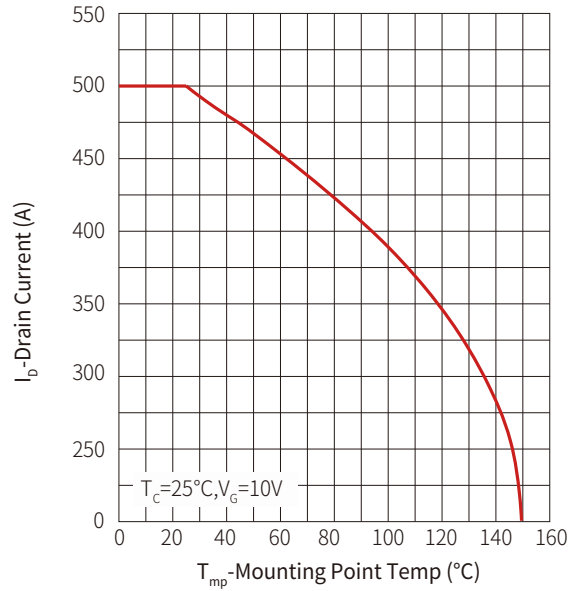


Figure3: Safe Operating Area

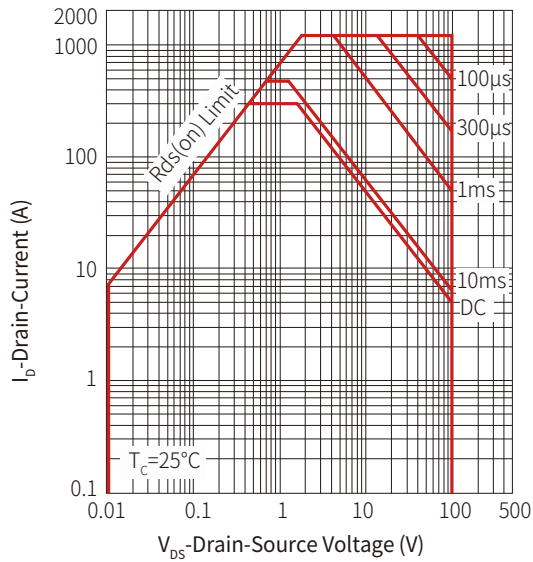


Figure 4: Transient Thermal Impedance

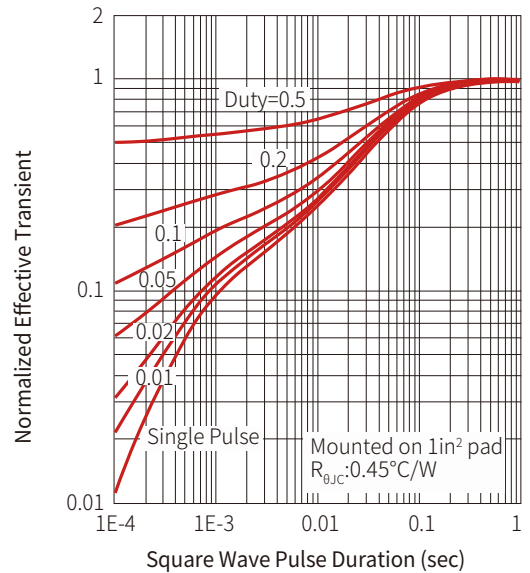


Figure 5: Output Characteristics

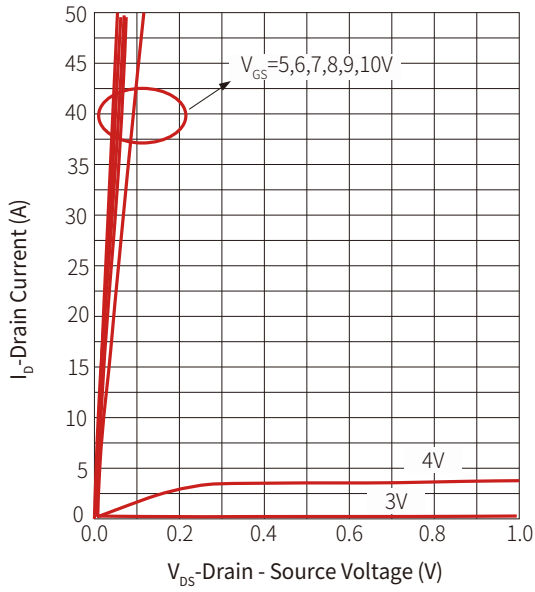


Figure 6: On Resistance

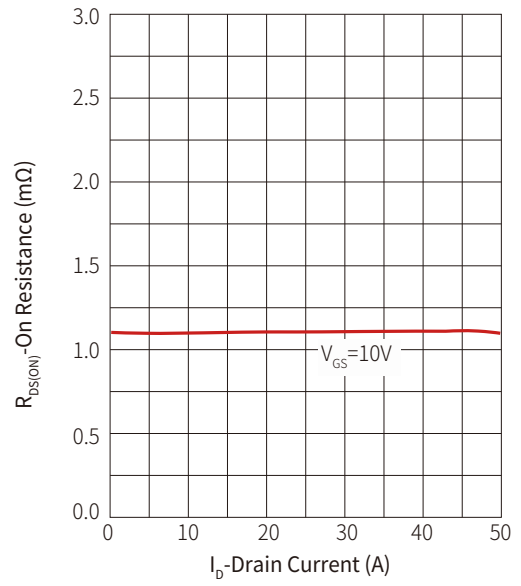


Figure 7: Transfer Characteristics

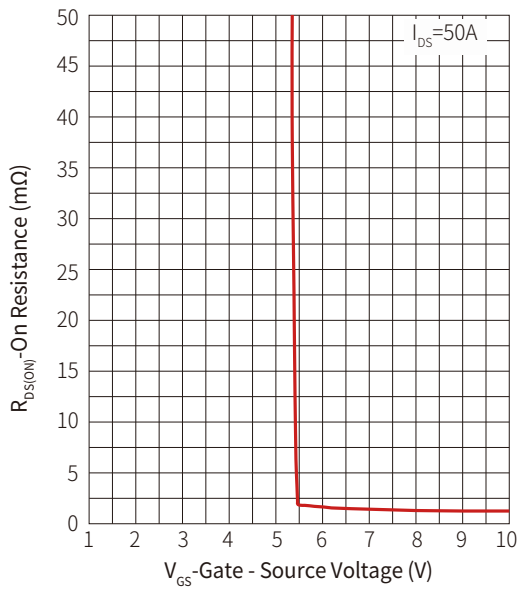


Figure 8: Normalized Threshold Voltage

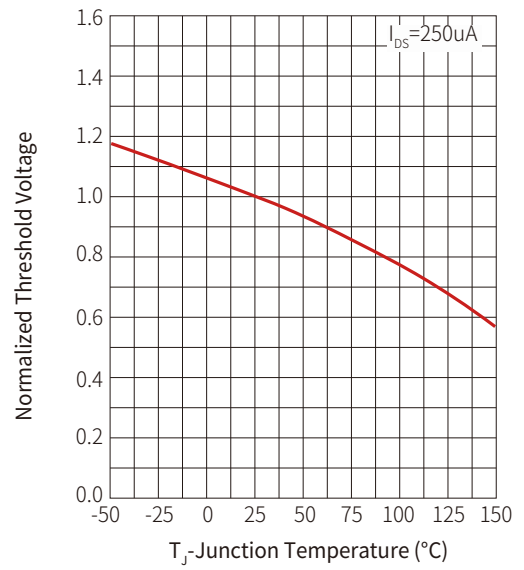


Figure 9: Normalized On Resistance

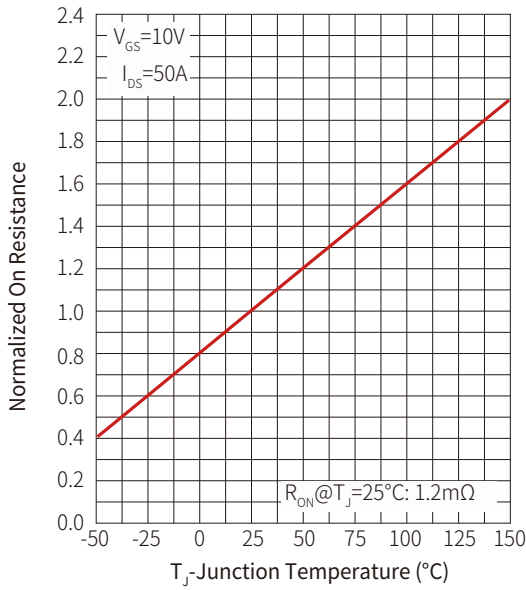


Figure 10: Diode Forward Current

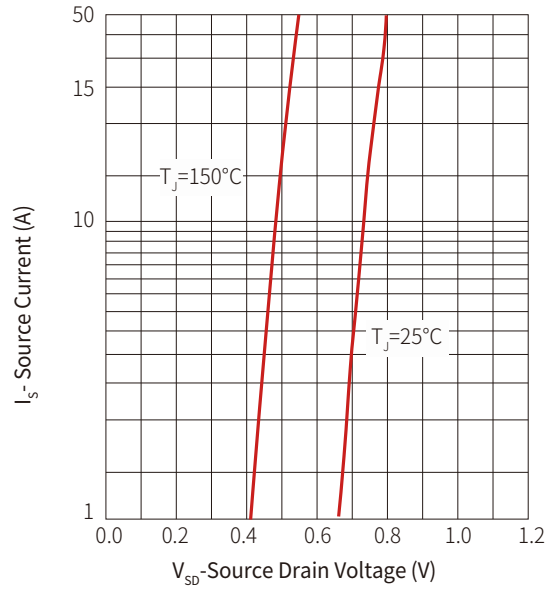


Figure 11: Capacitance

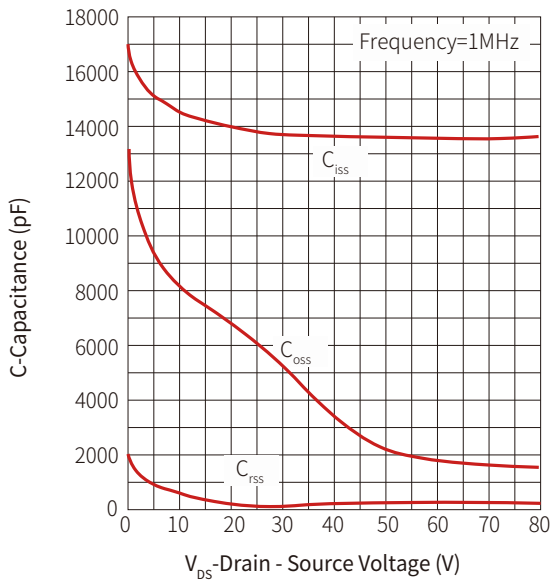
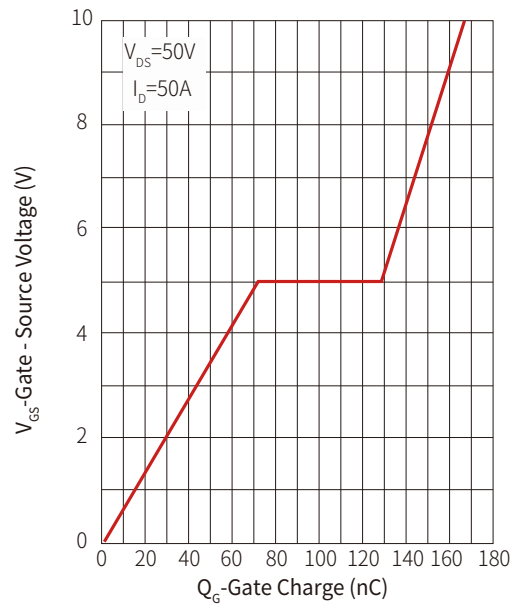
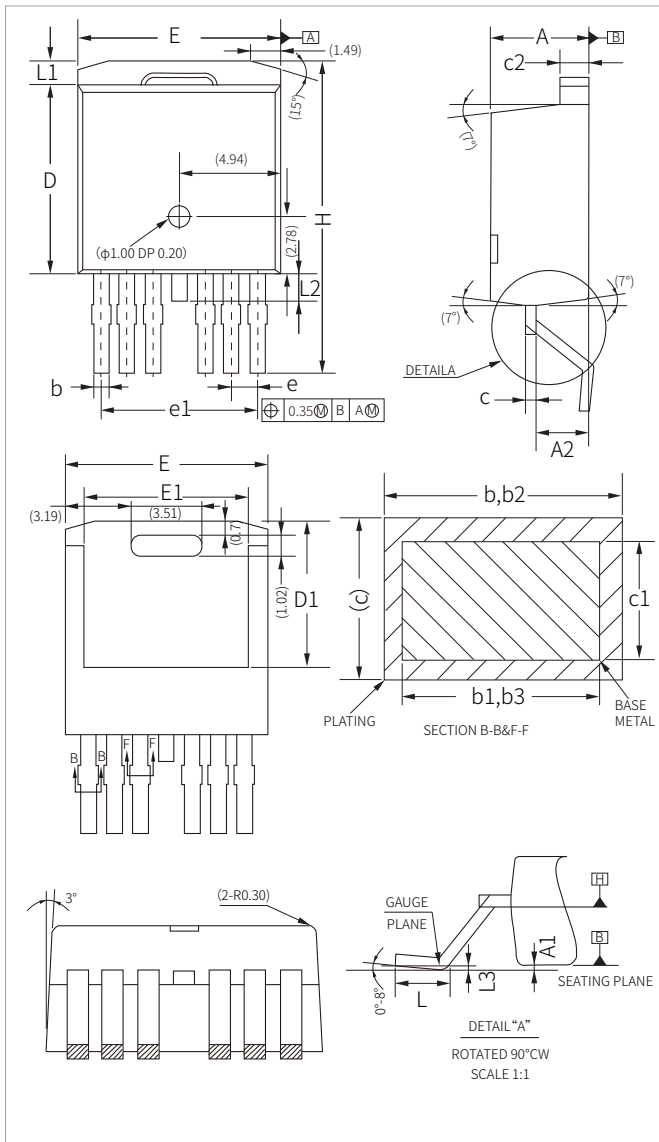


Figure 12: Gate Charge



TO-263-7L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	-	0.25	-	0.010
A2	2.20	2.60	0.087	0.102
b	0.65	0.85	0.026	0.033
b1	0.65	0.80	0.026	0.031
b2	0.80	1.00	0.031	0.039
b3	0.80	0.95	0.031	0.037
c	0.45	0.60	0.018	0.024
c1	0.45	0.55	0.018	0.022
c2	1.25	1.40	0.049	0.049
D	9.00	9.40	0.354	0.370
D1	6.86	7.42	0.270	0.292
E	9.68	10.08	0.381	0.397
E1	7.70	8.30	0.303	0.327
e	1.27BSC		0.050BSC	
e1	7.62BSC		0.300BSC	
L	1.78	2.79	0.070	0.110
L1	-	1.60	-	0.063
L2	-	1.78	-	0.066
L3	0.25BSD		0.010BSD	
H	14.61	15.88	0.575	0.625

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	QTY/Box
SNM015N10D7	TO-263-7L	800PCS	5600PCS

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Email: cs03@semiware.com

By QR Code

Website



Wechat

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

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