

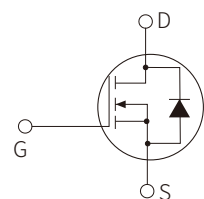
FEATURES

- | Advanced Split Gate Trench Technology
- | Excellent $R_{DS(ON)}$ and Low Gate Charge
- | 100% UIS TESTED!
- | 100% ΔV_{ds} TESTED!



APPLICATION

- | Load Switch
- | PWM Application
- | Power Management



Schematic Symbol

APPROVALS

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

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	150	V
Pulse Drain Current Tested ⁽¹⁾	I_{DM}	640	A
Continuous Drain Current	I_D	$T_c=25^{\circ}\text{C}$ 160	A
		$T_c=100^{\circ}\text{C}$ 96	A
Gate-Source Voltage	V_{GSS}	± 20	V
Power Dissipation ($T_c=25^{\circ}\text{C}$)	P_D	284	W
Single Pulsed Avalanche Energy ⁽²⁾	E_{AS}	784	mJ
Junction Temperature	T_J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$
Thermal Resistance- Junction to Case	$R_{\theta JC}$	0.44	$^{\circ}\text{C}/\text{W}$

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	150			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	2.5	3	3.5	V
Drain Leakage Current	I _{DSS}	V _{DS} =150V, V _{GS} =0V			1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
On-State Resistance ⁽³⁾	R _{DS(on)}	V _{GS} =10V, I _D =30A		4.2	5.5	mΩ
Dynamic Characteristics						
Total Gate Charge	Q _g	I _s =20A, di/dt=100A/us, T _j =25°C		80		nC
Gate Source Charge	Q _{gs}			30		nC
Gate Drain("Miller") Charge	Q _{gd}			15		nC
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =75V, f=1MHz		5030		pF
Output capacitance	C _{oss}			672		pF
Reverse transfer capacitance	C _{rss}			15		pF
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =75V, V _{GS} =10V R _{GEN} = 6Ω, I _D =20A		50		nS
Turn-on Rise Time	t _r			89		nS
Turn-Off Delay Time	t _{d(off)}			93		nS
Turn-Off Fall Time	t _f			58		nS
Drain-Source Diode Characteristics and Max Ratings						
Drain to Source Diode Forward Voltage	V _{SD}	I _s =30A, V _{GS} =0V			1.2	V
Body Diode Reverse Recovery Time	t _{rr}	I _F =15A, di/dt=100A/us		120		ns
Body Diode Reverse Recovery Charge	Q _{rr}			250		nC
Maximum Continuous Drain to Source Diode Forward Current	I _S				160	A
Maximum Pulsed Drain to Source Diode Forward Current	I _{SM}				640	A

Notes:

- 1.Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
- 2.E_{AS} condition: Starting T_J=25°C, V_{DD}=75V, V_G=10V, R_G=25ohm, L=0.5mH, I_{AS}=56A
- 3.Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

PARAMETER CHARACTERISTIC CURVE

Fig 1: Output Characteristics

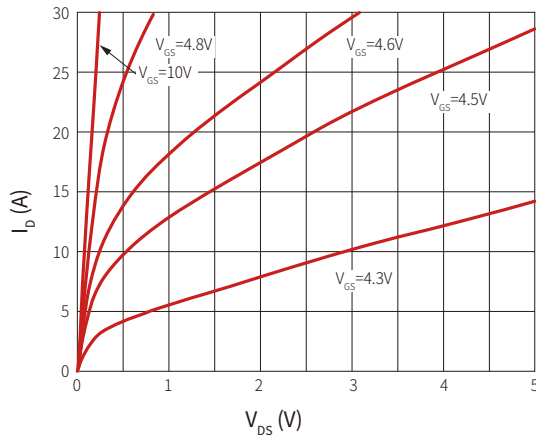


Figure 2: Transfer Characteristics

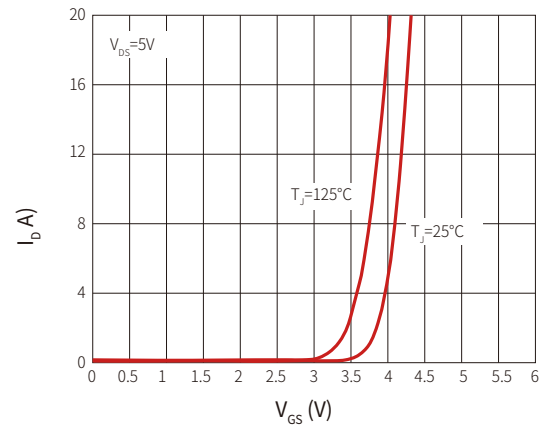


Figure 3: On-Resistance vs. Drain Current

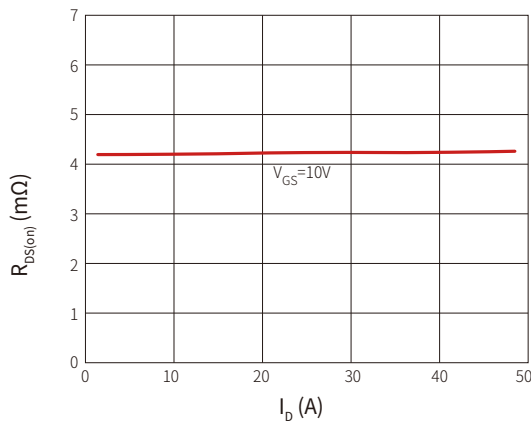


Figure 4: Body Diode Characteristics

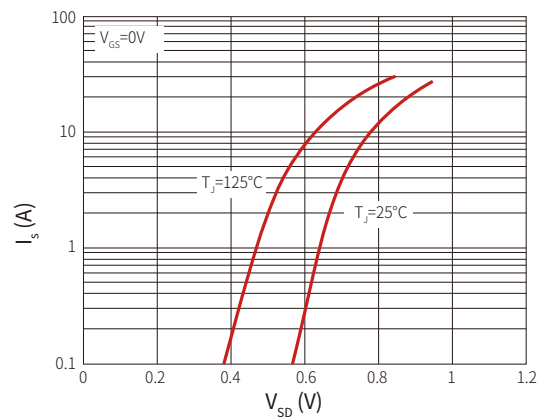


Figure 5: Gate Charge

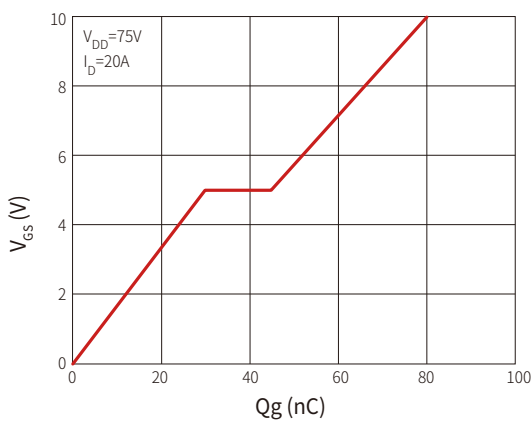


Figure 6: Capacitance Characteristics

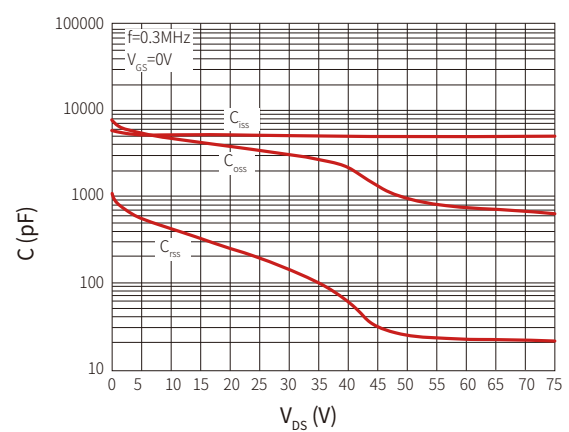
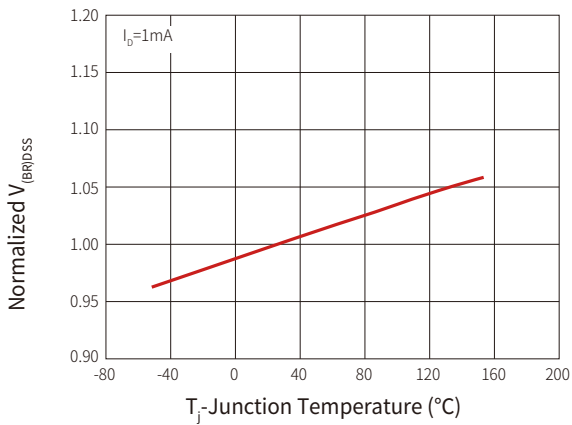
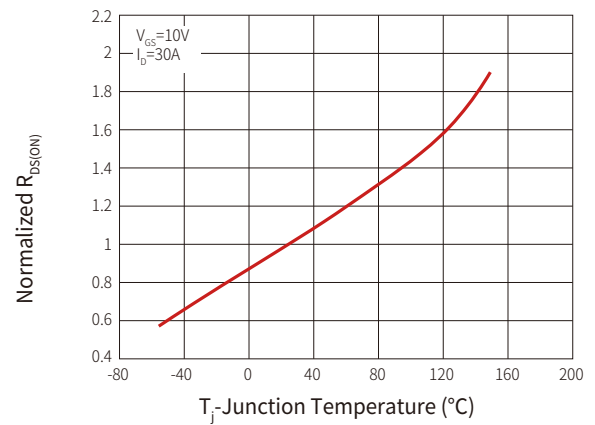
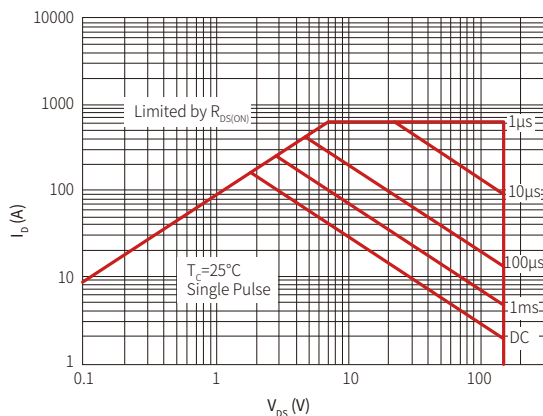
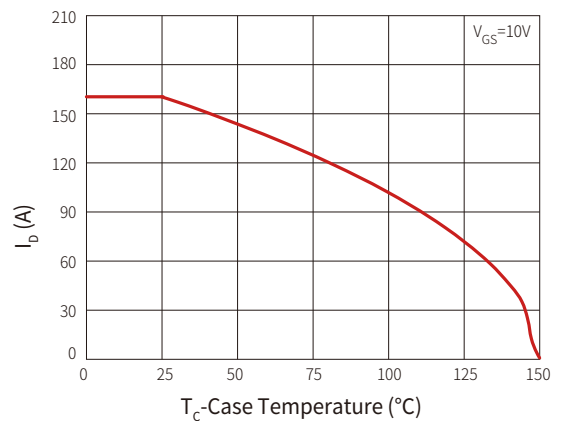
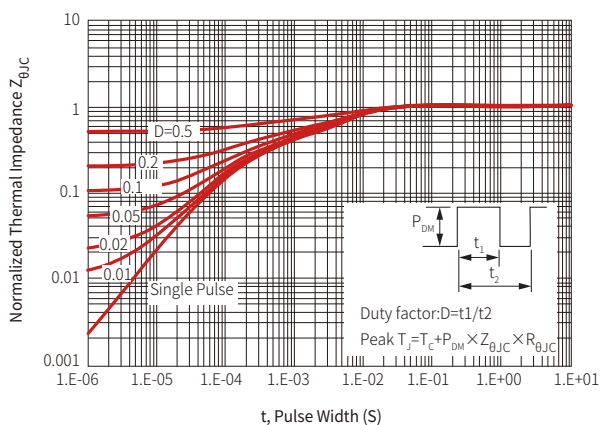
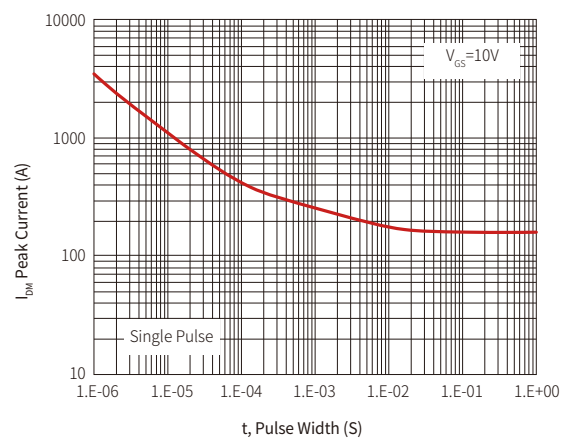
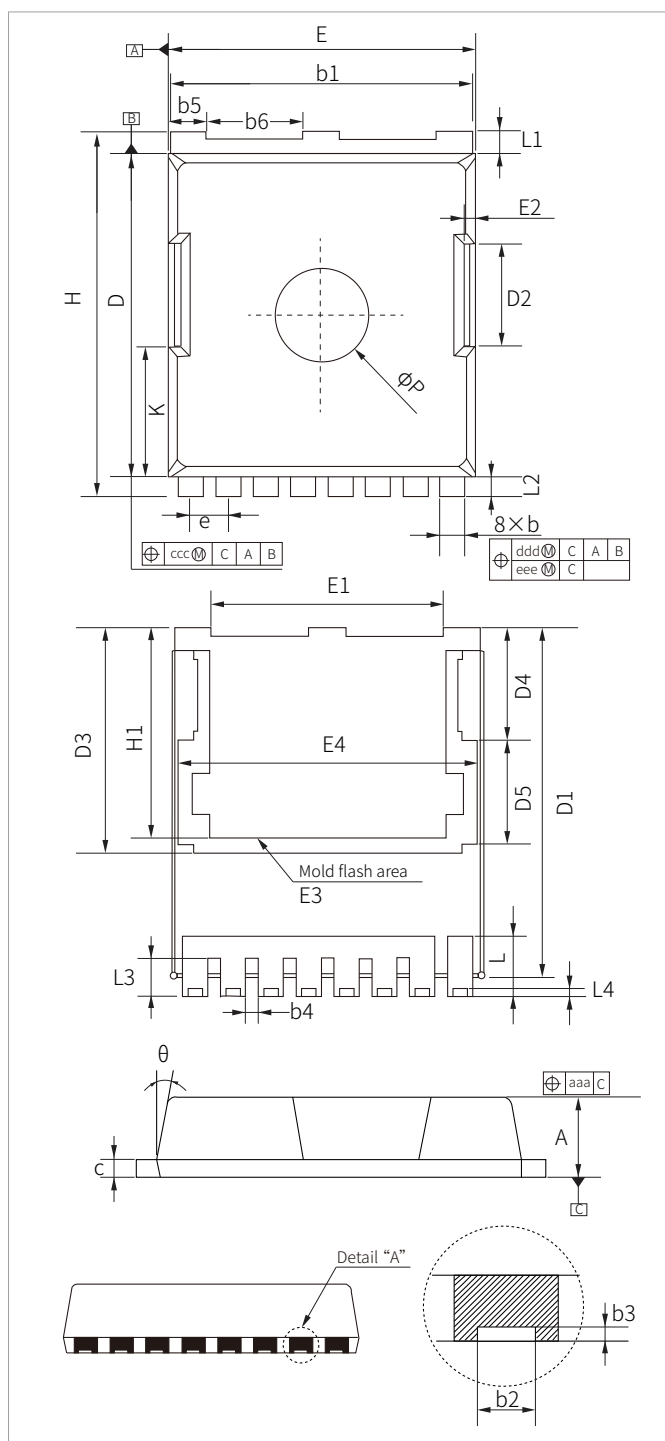


Figure 7: Normalized Breakdown voltage vs. Junction voltage

Figure 8: Normalized On Resistance vs. Junction voltage

Figure 9: Maximum Safe Operation Area

Figure 10: Maximum Continuous Drain Current vs. Case Temperature

Figure 11: Normalized Maximum Transient Thermal Impedance

Figure 12: Peak Current Capacity


TOLL-8L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.087	0.094
b	0.70	0.90	0.028	0.035
b1	9.70	9.90	0.382	0.390
b2	0.36	0.55	0.014	0.022
b3	0.05	-	0.002	-
b4	0.30	0.50	0.012	0.020
b5	1.10	1.30	0.043	0.051
b6	3.00	3.20	0.118	0.126
c	0.40	0.60	0.016	0.024
D	10.28	10.55	0.405	0.415
D1	10.98	11.18	0.432	0.440
D2	3.20	3.40	0.126	0.134
D3	7.15		0.281	
D4	3.59		0.141	
D5	3.26		0.128	
e	1.10	1.30	0.043	0.051
E	9.80	10.00	0.386	0.394
E1	7.40	7.60	0.291	0.299
E2	7.40	7.60	0.291	0.299
E3	8.50		0.335	
E4	9.46		0.372	
H	11.50	11.85	0.453	0.466
H1	6.55	6.75	0.258	0.266
K	4.08	4.28	0.161	0.169
L	1.60	2.10	0.063	0.083
L1	0.50	0.90	0.020	0.035
L2	0.50	0.70	0.020	0.028
L3	1.00	1.30	0.040	0.051
L4	0.13	0.33	0.005	0.013
P	2.85	3.15	0.112	0.124
θ	10°REF		0.398°REF	
aaa	0.20		0.008	
ccc	0.20		0.008	
ddd	0.25		0.010	
eee	0.20		0.008	

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	QTY/Box
SNM150N15T	TOLL-8L	 150N15 XXXX	2000PCS	10000PCS

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By QR Code

Website



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