

Product Summary

V _{(BR)DSS}	R _{DS(on)} TYP	I _D
30V	0.8mΩ@10V	330A
	1.3mΩ@4.5V	

Feature

- Split Gate Trench Technology
- Low R_{DS(ON)}
- Low Gate Charge
- Low Gate Resistance
- 100% UIS Tested

Application

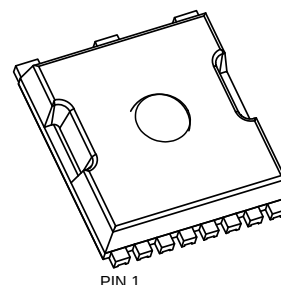
- Power Switching Application

MARKING:

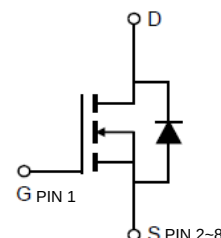


T008N10LTP = Device
Code XX = Date Code
Solid Dot = Green Indicator

TOLL



Schematic diagram



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain - Source Voltage		V _{DS}	30	V
Gate - Source Voltage		V _{GS}	±20	V
Continuous Drain Current ¹	T _C = 25°C	I _D	330	A
	T _C = 100°C	I _D	214	A
Pulsed Drain Current ²		I _{DM}	1320	A
Single Pulsed Avalanche Current ³		I _{AS}	48	A
Single Pulsed Avalanche Energy ³		E _{AS}	960	mJ
Power Dissipation ⁵	T _C = 25°C	P _D	320	W
Thermal Resistance from Junction to Ambient ⁶		R _{θJA}	50	°C/W
Thermal Resistance from Junction to Case		R _{θJC}	0.47	°C/W
Junction Temperature		T _J	150	°C
Storage Temperature		T _{STG}	-55~ +150	°C

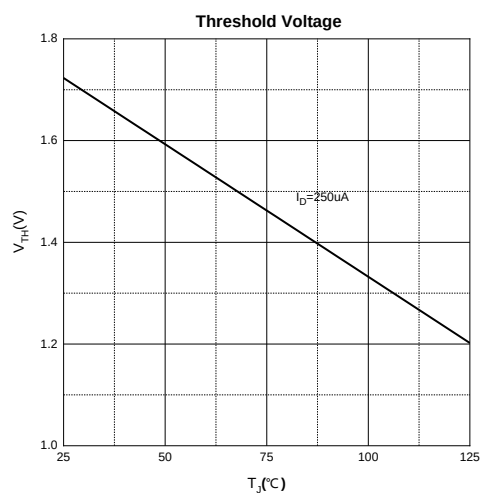
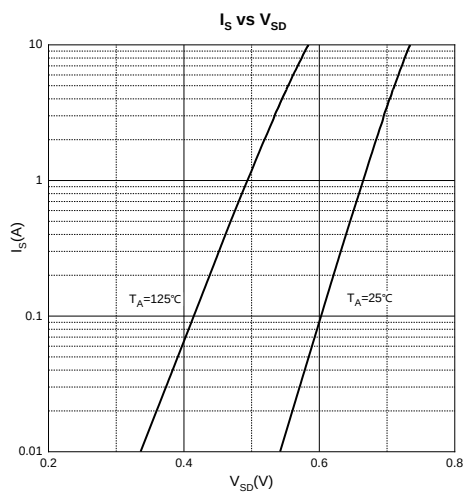
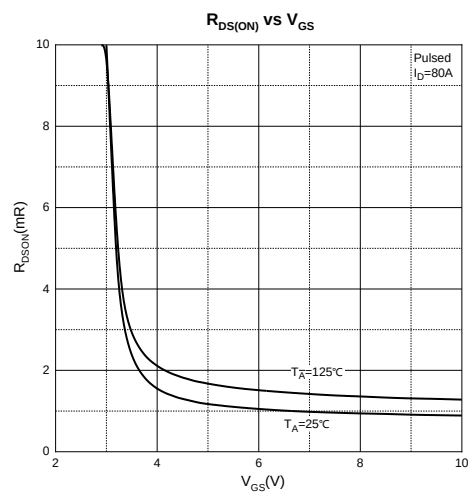
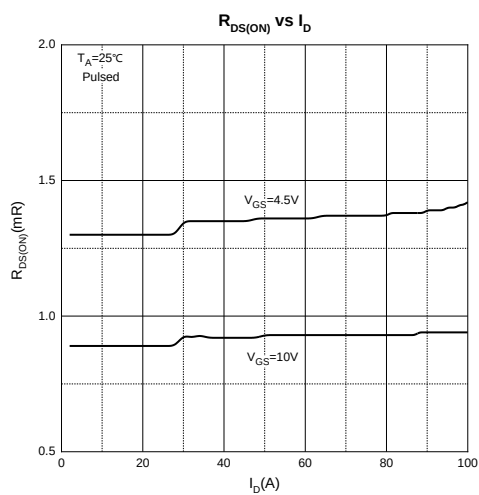
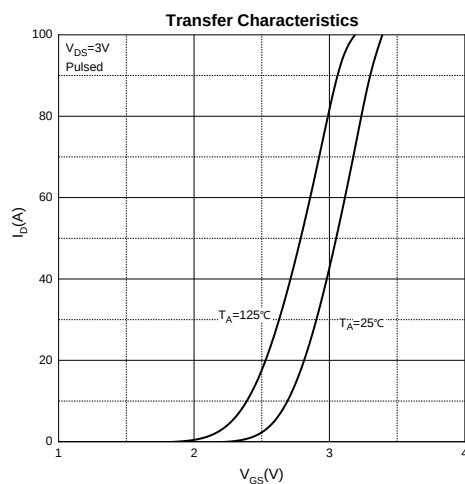
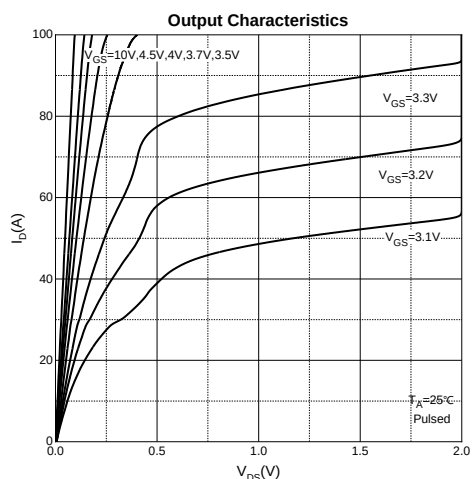
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

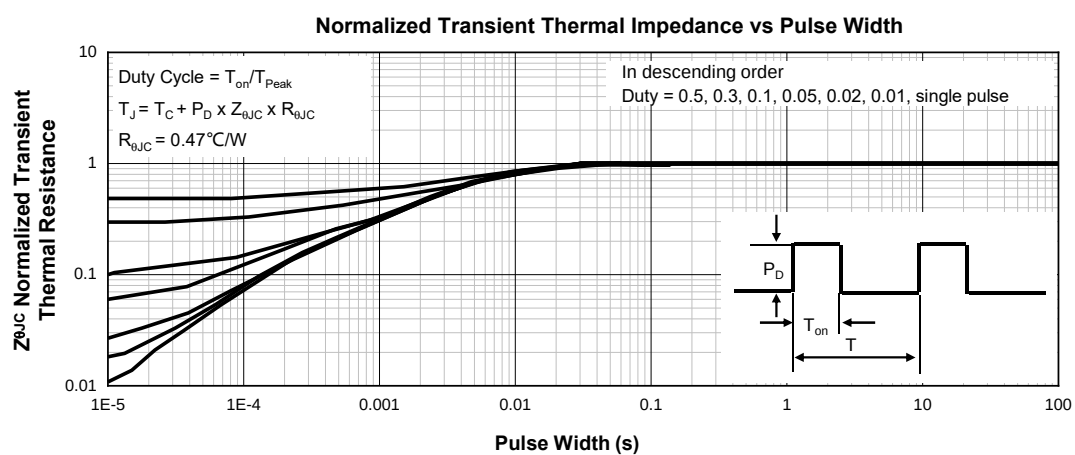
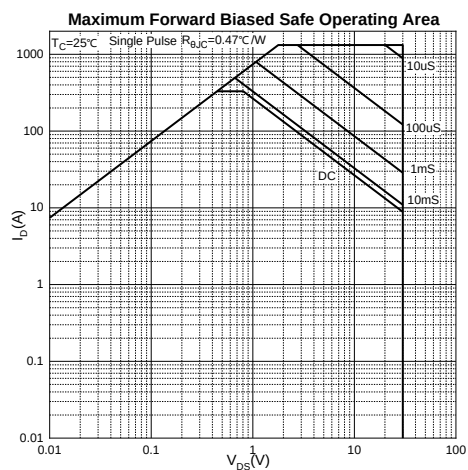
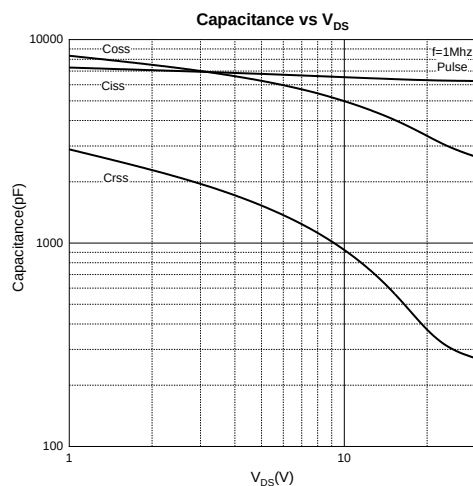
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On Characteristics ⁴						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.7	3	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 20A		0.8	1.2	mΩ
		V _{GS} = 4.5V, I _D = 20A		1.3	1.8	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		6452		pF
Output Capacitance	C _{oss}			3789		
Reverse Transfer Capacitance	C _{rss}			609		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		4.0		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DD} = 15V, V _{GS} = 10V, I _D = 20A		118.5		nC
Gate-source Charge	Q _{gs}			17.4		
Gate-drain Charge	Q _{gd}			26.3		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 15V, V _{GS} = 10V, R _L = 15Ω R _G = 2.5Ω		18		ns
Turn-on Rise Time	t _r			200		
Turn-off Delay Time	t _{d(off)}			85		
Turn-off Fall Time	t _f			125		
Source - Drain Diode Characteristics						
Diode Forward Voltage ⁴	V _{SD}	V _{GS} = 0V, I _S = 20A			1.0	V

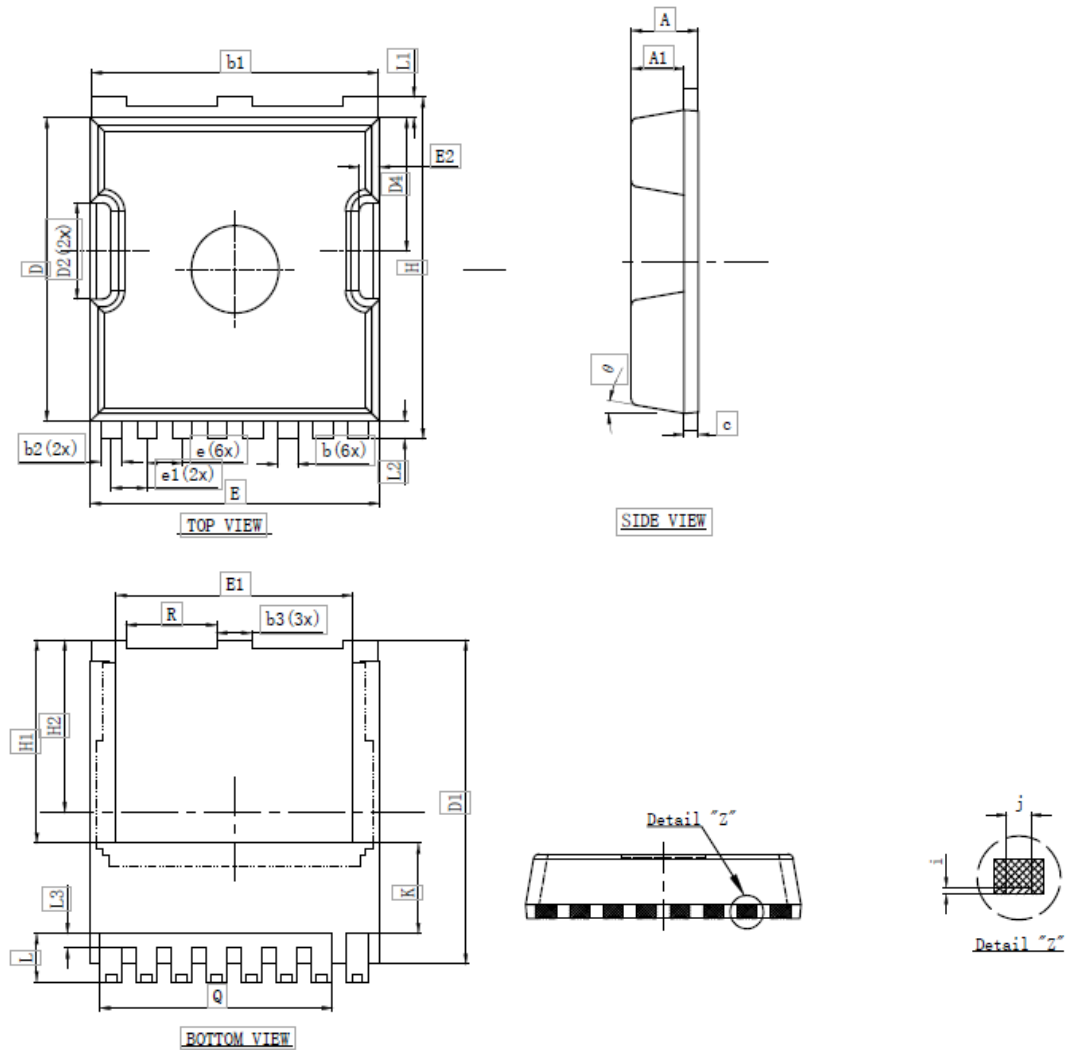
Notes :

- 1.The maximum current rating is limited by package.And device mounted on a large heatsink
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.EAS condition: $V_{DD} = 50V, V_{GS} = 10V, L = 1mH, R_G = 25\Omega$ Starting $T_J = 25^\circ\text{C}$.
- 4.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 5.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.And device mounted on a large heatsink
- 6.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics





TOLL Package Information


SYMBOL	MILLIMETER		Dimensions In Inches	
	MIN.	MAX.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.700	1.900	0.067	0.075
b	0.600	0.800	0.024	0.031
b1	9.700	9.900	0.382	0.390
b2	0.650	0.850	0.026	0.033
b3	1.100	1.300	0.043	0.051
c	0.400	0.600	0.016	0.024
D	10.300	10.500	0.406	0.413
D1	11.000	11.200	0.433	0.441
D2	3.200	3.400	0.126	0.134
D4	4.470	4.670	0.176	0.184
E	9.800	10.000	0.386	0.394