

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
200V	6.4mΩ@10V	135A

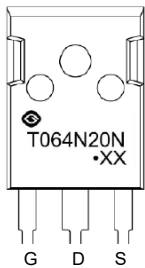
Feature

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

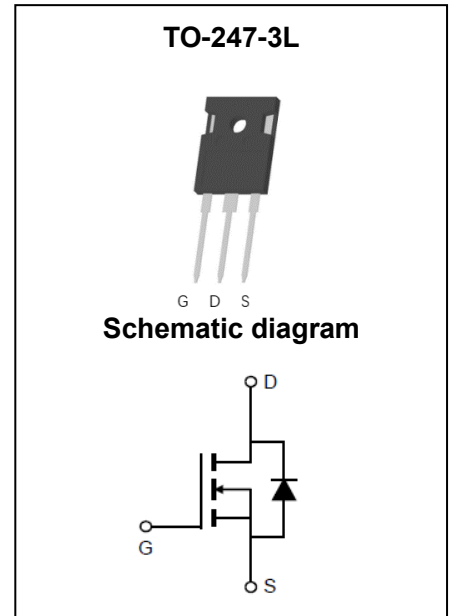
Application

- DC/DC Converter
- Power Switching Application

MARKING:



T064N20N = Device Code
 XX = Date Code
 Solid Dot = Green Indicator



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit	
Drain - Source Voltage	V_{DS}	200	V	
Gate - Source Voltage	V_{GS}	±20	V	
Continuous Drain Current ¹	$T_C = 25^\circ\text{C}$	I_D	135	A
	$T_C = 100^\circ\text{C}$	I_D	88	A
Pulsed Drain Current ²	I_{DM}	540	A	
Single Pulsed Avalanche Current ³	I_{AS}	93	A	
Single Pulsed Avalanche Energy ³	E_{AS}	2162	mJ	
Power Dissipation ⁵	$T_C = 25^\circ\text{C}$	P_D	368	W
Thermal Resistance from Junction to Ambient ⁶	$R_{\theta JA}$	49	$^\circ\text{C/W}$	
Thermal Resistance from Junction to Case	$R_{\theta JC}$	0.34	$^\circ\text{C/W}$	
Junction Temperature	T_J	150	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$	

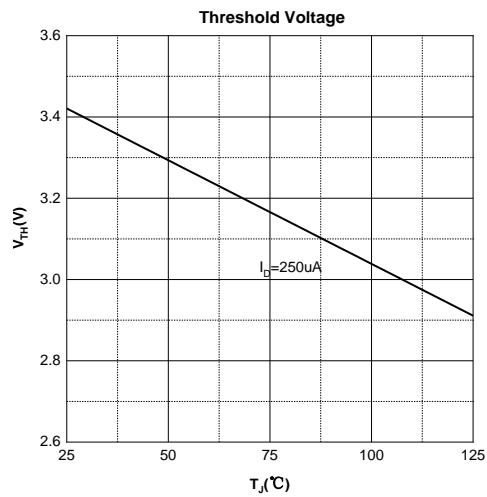
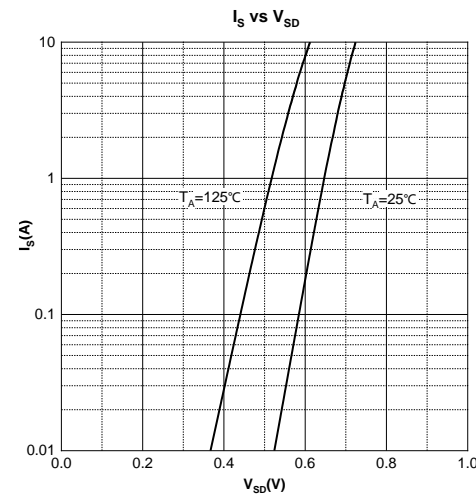
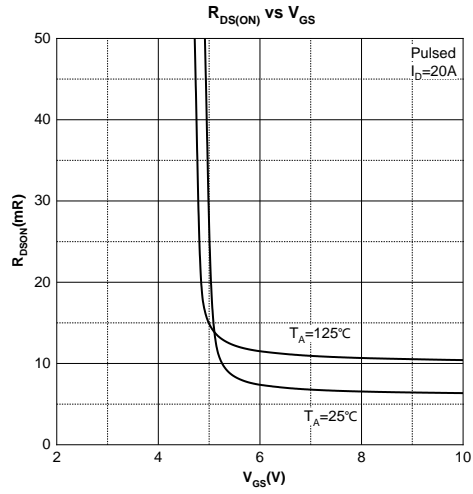
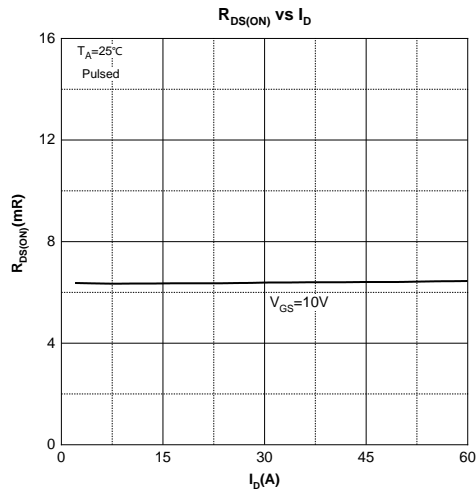
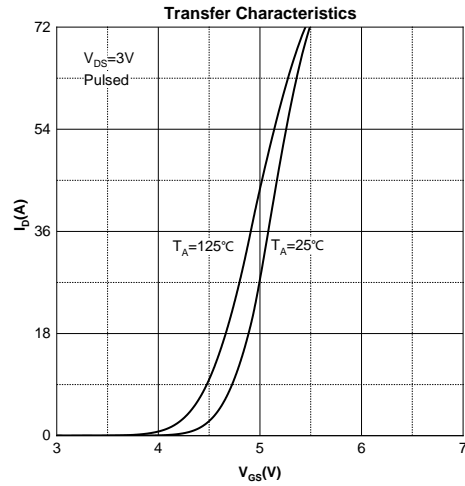
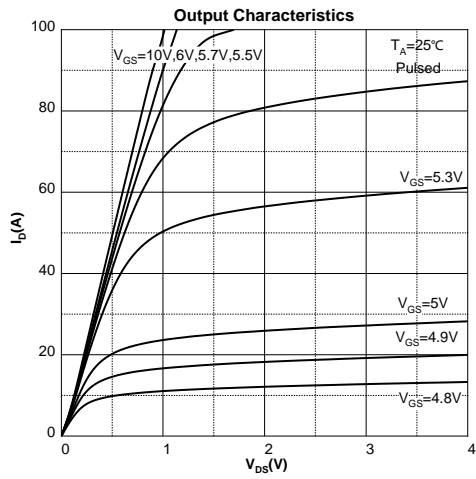
MOSFET ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

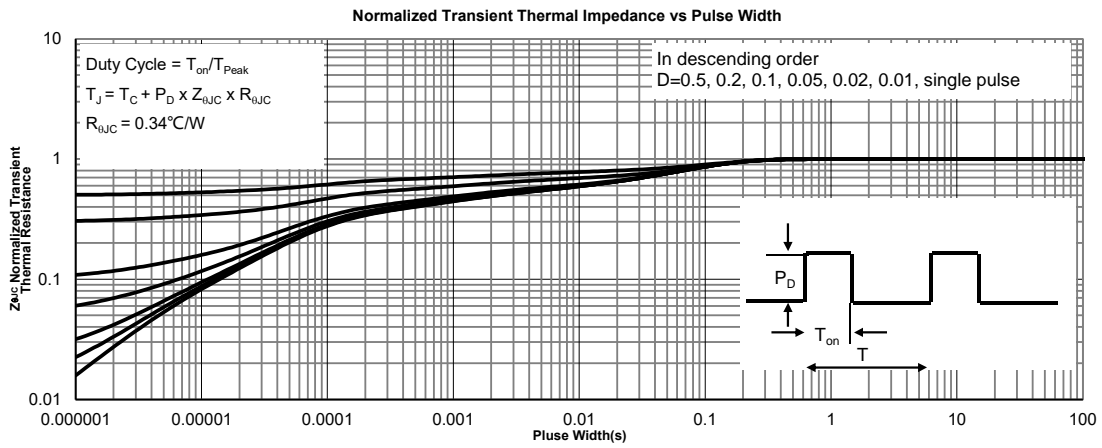
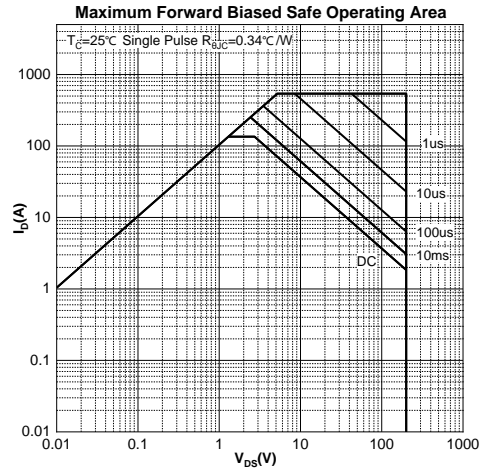
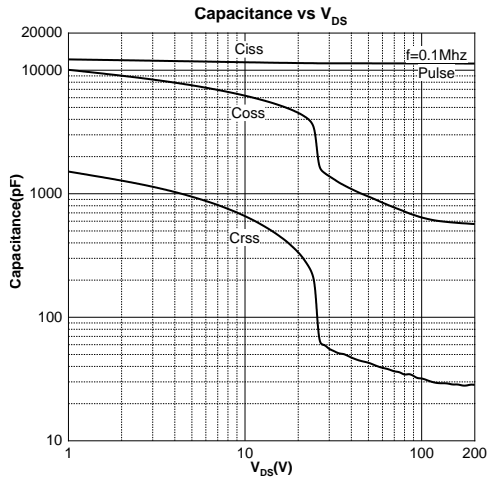
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	200			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 200V, V_{GS} = 0V$			1	μA
Gate - Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics⁴						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3.4	4	V
Drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 20A$		6.4	8.3	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 50V, V_{GS} = 0V, f = 0.1MHz$		11375		pF
Output Capacitance	C_{oss}			638		
Reverse Transfer Capacitance	C_{rss}			35		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 0.1MHz$		1.6		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 100V, V_{GS} = 10V, I_D = 20A$		160		nC
Gate-source Charge	Q_{gs}			54		
Gate-drain Charge	Q_{gd}			34		
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 100V, V_{GS} = 10V, I_D = 20A,$ $R_G = 4.7\Omega$		51		ns
Turn-on Rise Time	t_r			34		
Turn-off Delay Time	$t_{d(off)}$			62		
Turn-off Fall Time	t_f			13		
Source - Drain Diode Characteristics						
Diode Forward Voltage ⁴	V_{SD}	$V_{GS} = 0V, I_S = 20A$			1.2	V

Notes :

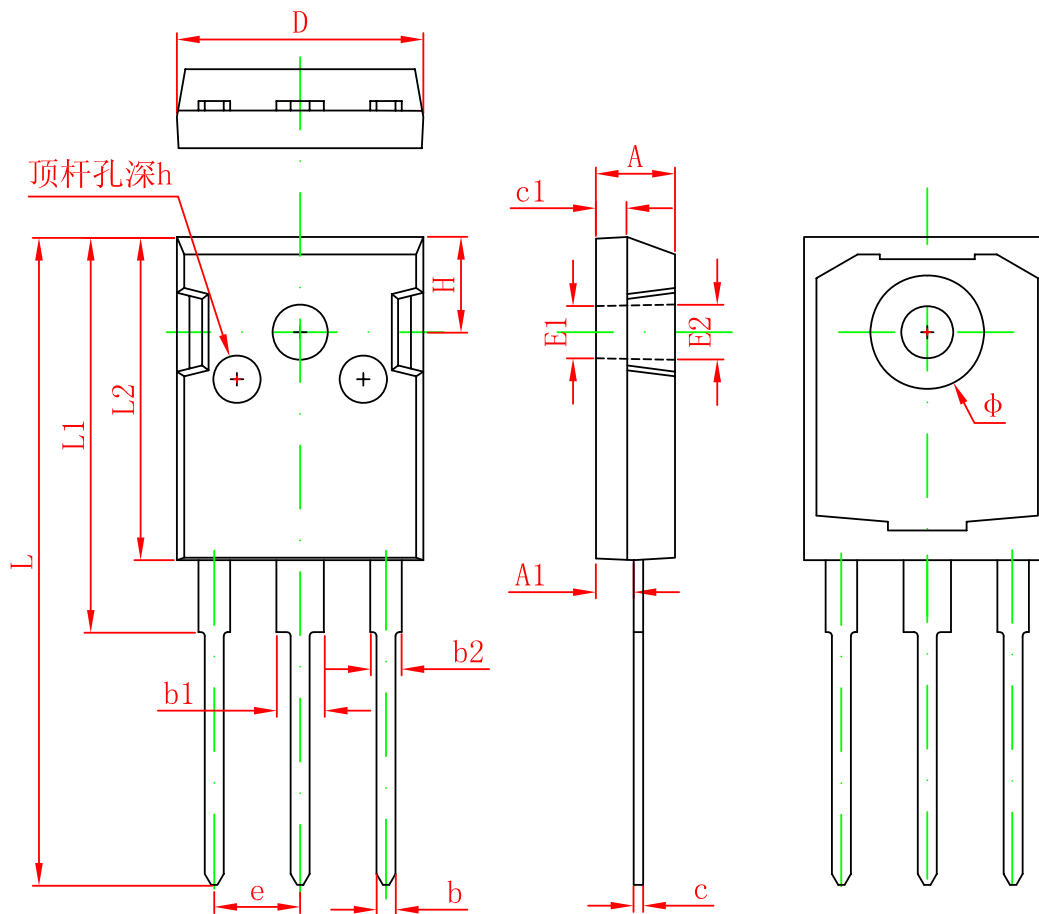
- 1.The maximum current rating is limited by package.And device mounted on a large heatsink
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.EAS condition: $V_{DD} = 100V, V_{GS} = 10V, L = 0.5mH, R_G = 25\Omega$ Starting $T_J = 25^\circ\text{C}$.
- 4.Pulse Test : Pulse Width $\leq 300\mu s$, 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 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics





TO-247-3L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.850	5.150	0.191	0.200
A1	2.200	2.600	0.087	0.102
b	1.000	1.400	0.039	0.055
b1	2.800	3.200	0.110	0.126
b2	1.800	2.200	0.071	0.087
c	0.500	0.700	0.020	0.028
c1	1.900	2.100	0.075	0.083
D	15.450	15.750	0.608	0.620
E1	3.500 REF		0.138 REF	
E2	3.600 REF		0.142 REF	
L	40.900	41.300	1.610	1.626
L1	24.800	25.100	0.976	0.988
L2	20.300	20.600	0.799	0.811
Φ	7.100	7.300	0.280	0.287
e	5.450 TYP		0.215 TYP	
H	5.980 REF		0.235 REF	
h	0.000	0.300	0.000	0.012