

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
85V	4.6mΩ@10V	140A

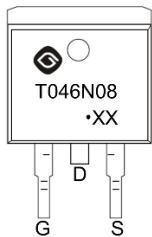
Feature

- Shielded Gate Trench Technology
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Current
- Lead Free

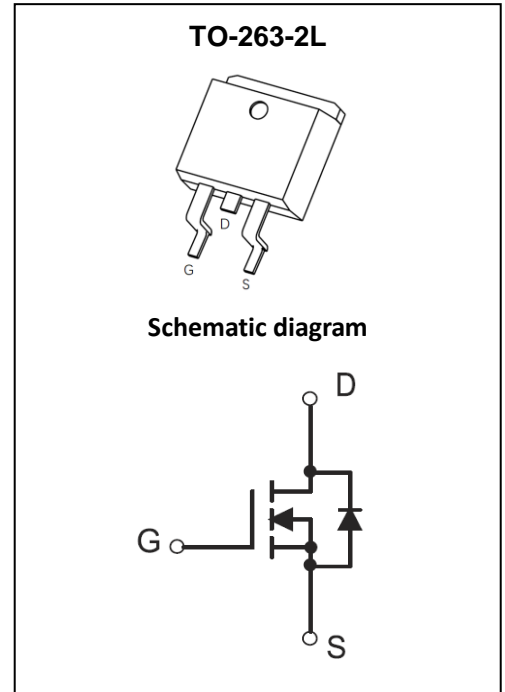
Application

- High Efficiency Power Supply
- Secondary Synchronous Rectifier

MARKING:



T046N08 = Device code
XX = Date Code



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	85	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ^{1,2}	I_D	140	A
Pulsed Drain Current	I_{DM}	280	A
Avalanche Current*	I_{AS}	28	A
Single Pulse Avalanche Energy*	E_{AS}	263	mJ
Maximum Power Dissipation	P_D	240	W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	0.52	$^\circ\text{C/W}$
Thermal Resistance from Junction to Ambient ^{1,2}	$R_{\theta JA}$	53	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

* E_{AS} test condition: $V_{DD}=10\text{V}$, $R_G=25\Omega$, $L=0.5\text{mH}$, starting $T_J=25^\circ\text{C}$.

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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	85			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics						
Gate threshold voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0	3.0	4.0	V
Drain-source on-resistance ³	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 20A$		4.0	4.6	m Ω
Dynamic characteristics						
Input capacitance	C_{iss}	$V_{DS} = 40V, V_{GS} = 0V, f = 1MHz$		3300		pF
Output capacitance	C_{oss}			820		
Reverse transfer capacitance	C_{rss}			10		
Switching Characteristics						
Total gate charge	Q_g	$V_{DS} = 40V, V_{GS} = 10V, I_D = 70A$		49		nC
Gate-source charge	Q_{gs}			2		
Gate-drain charge	Q_{gd}			33		
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 40V$ $R_g = 4.7\Omega, I_D = 70A$		19		ns
Turn-on rise time	t_r			33		
Turn-off delay time	$t_{d(off)}$			37		
Turn-off fall time	t_f			19		
Diode Characteristics						
Diode forward current	I_S				140	A
Diode pulsed forward current	I_{SM}				280	A
Diode forward voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 20A$			1.2	V

Notes:

- $R_{\theta JA}$ is measured with the device mounted on 1 in² FR4 board with 1oz. single side copper, in a still air environment with $T_A = 25^\circ\text{C}$.
- $R_{\theta JA}$ is measured in the steady state
- Pulse test : Pulse width $\leq 380\mu s$, duty cycle $\leq 2\%$.

Typical Electrical and Thermal Characteristics

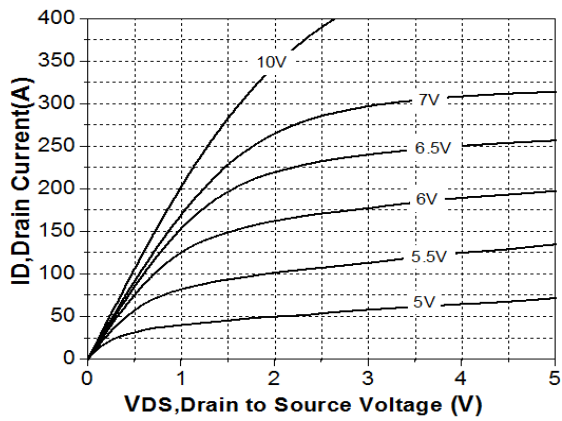


Figure1 Output Characteristics

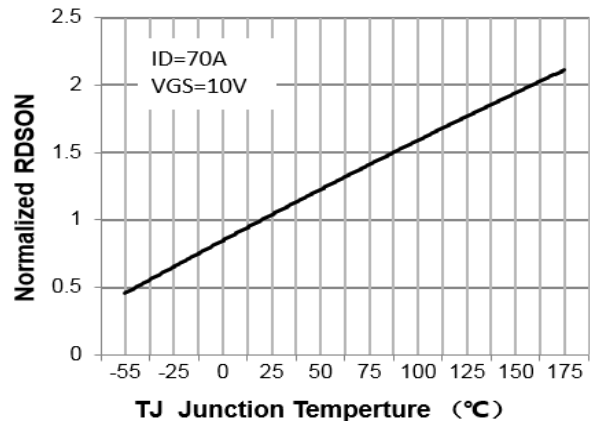


Figure4 Rdson - Junction Temperature

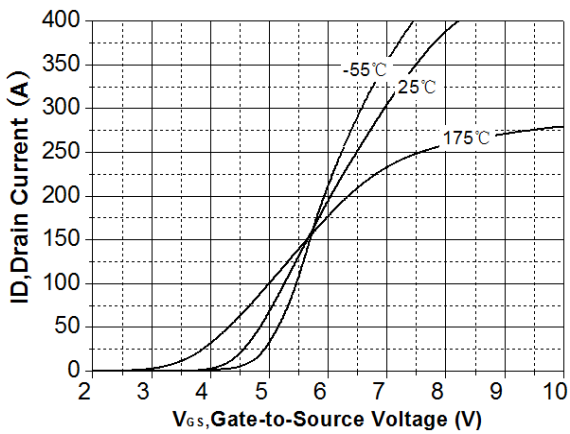


Figure2 Transfer Characteristics

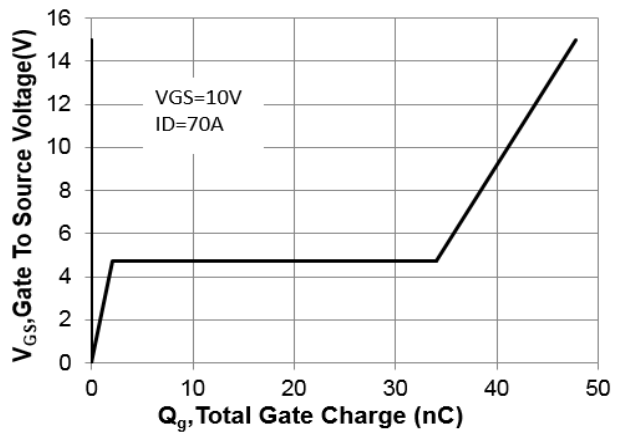


Figure5 Gate Charge

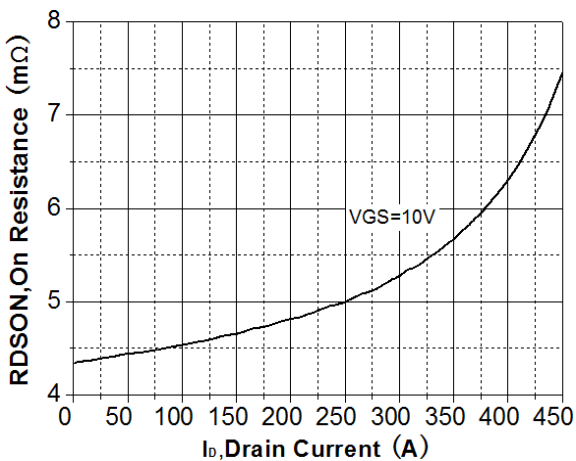


Figure3 Rdson - Drain Current

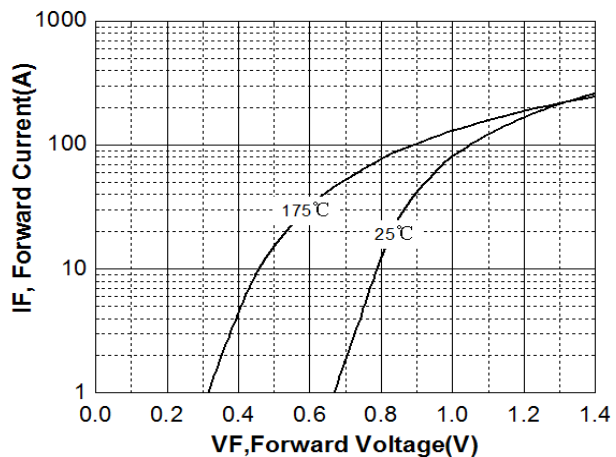


Figure6 Source - Drain Diode Forward

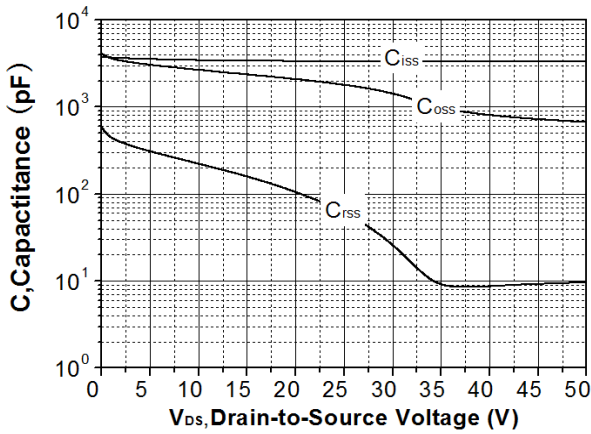


Figure 7 Capacitance vs Vds

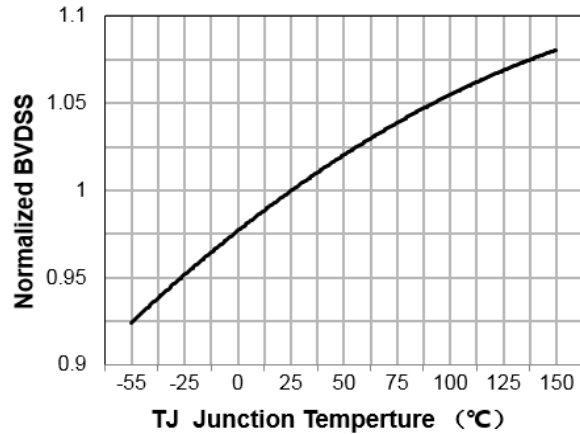


Figure 9 BV_{dss} vs Junction Temperature

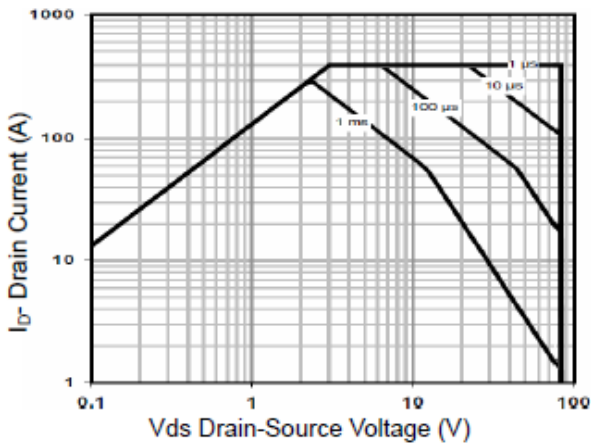


Figure 8 Safe Operation Area

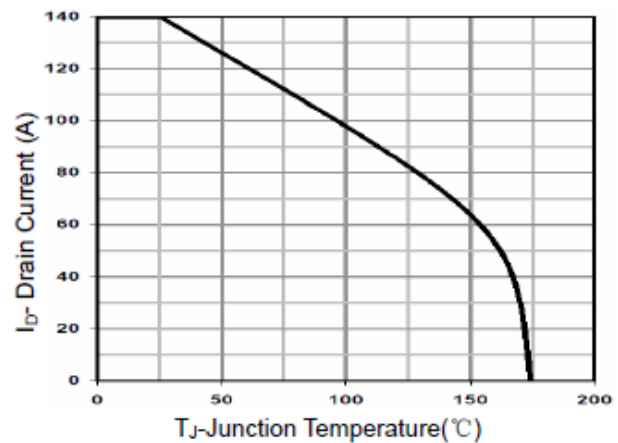


Figure 10 Current De-rating

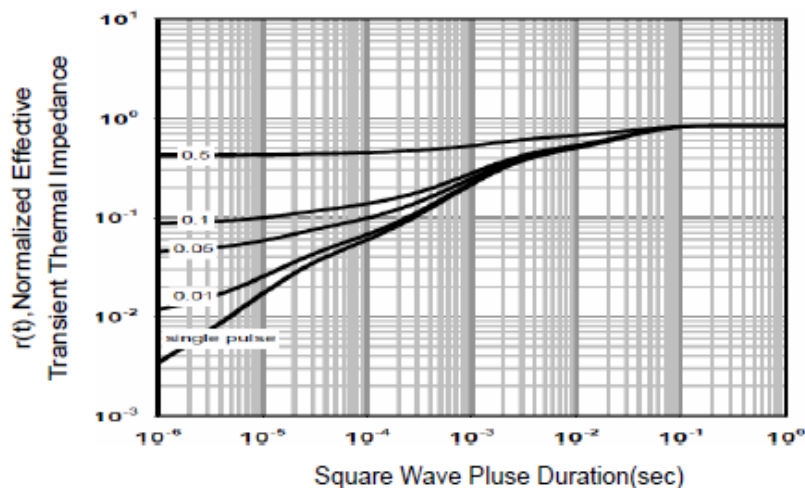
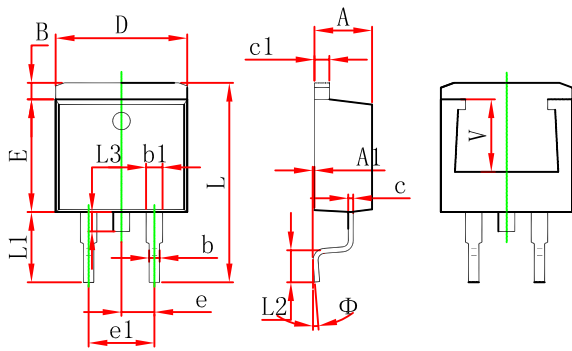


Figure 11 Normalized Maximum Transient Thermal Impedance

TO-263-2L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220REF.	

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)