STN80T08

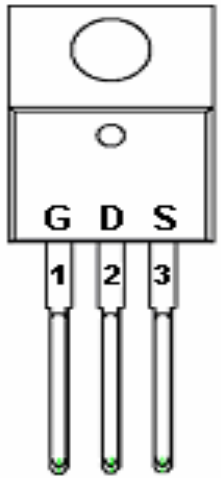
N Channel Enhancement Mode MOSFET

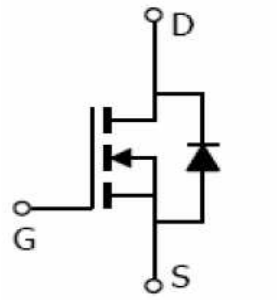
80.0A

DESCRIPTION

STN80T08 is used trench technology to provide excellent RDS(on) and gate charge. Those devices are suitable for use as load switch or in PWM applications.

PIN CONFIGURATION
TO220-3L





FEATURE

- 80V/40.0A, $R_{DS(ON)}$ = 8mΩ (Typ.) @V_{GS} = 10V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- TO-220 package design

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ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		VDSS	80	V
Gate-Source Voltage		VGSS	±25	V
Continuous Drain Current (TJ=150℃)	TA=25℃ TA=70℃	ID	80.0 300.0	A
Pulsed Drain Current		IDM	370	A
Avalanche Current		IAS	80	A
Power Dissipation	TA=25℃	PD	200	W
Operation Junction Temperature		TJ	175	℃
Storgae Temperature Range		TSTG	-55/175	℃
Thermal Resistance-Junction to Ambient		RθJA	0.75	℃/W

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ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,ID=250uA	80			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},ID=250uA	2.0		4.0	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V,V_{GS}=0V			1	uA
		Tj=5℃			30	
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=40A		8	11	mΩ
Diode Forward Voltage	V_{SD}	I_S=1.0A,V_{GS}=0V			1.1	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=4.5V,V_{DS}=70V I_D≡75A		80	112	nC
Gate-Source Charge	Q_{gs}			18		
Gate-Drain Charge	Q_{gd}			27		
Input Capacitance	C_{iss}	V_{DS} =30V,VGS=0V F=1MHz		3350		pF
Output Capacitance	C_{oss}			450		
Reverse TransferCapacitance	C_{rss}			200		
Turn-On Time	$t_{d(on)}$	V_{DD}=30V,R_L= 30Ω V_{DS}=10V,R_G=6Ω		25	42	nS
	tr			13	23	
Turn-Off Time	$t_{d(off)}$			75	140	
	tf			65	125	

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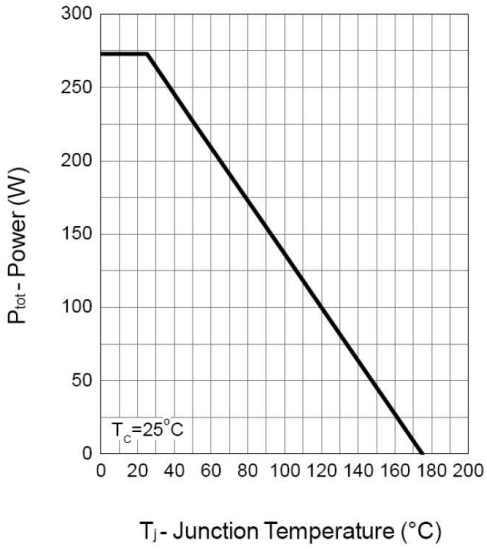
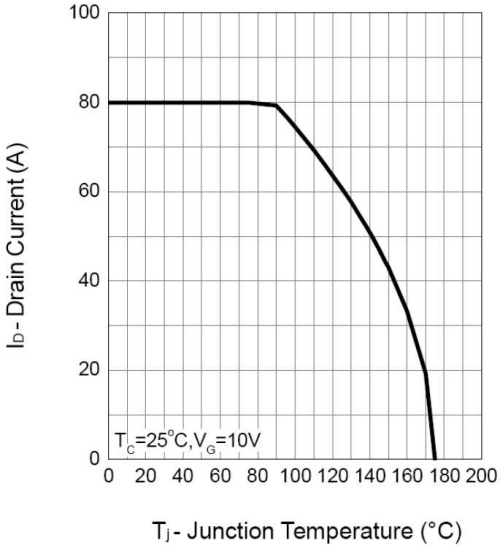
TYPICAL CHARACTERICTICS

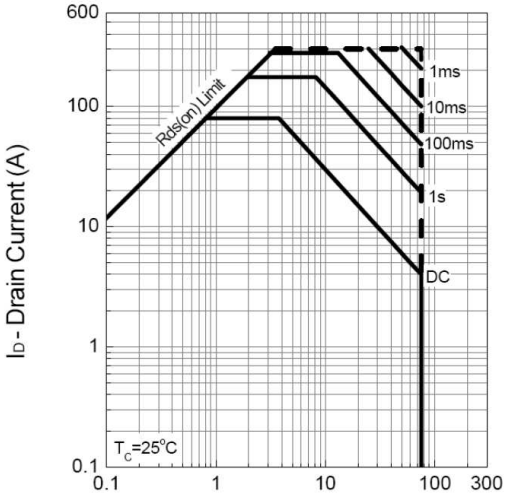
Power Dissipation



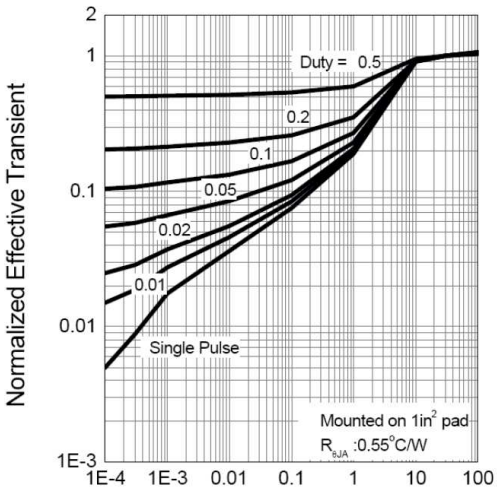
Drain Current



Safe Operation Area



Thermal Transient Impedance



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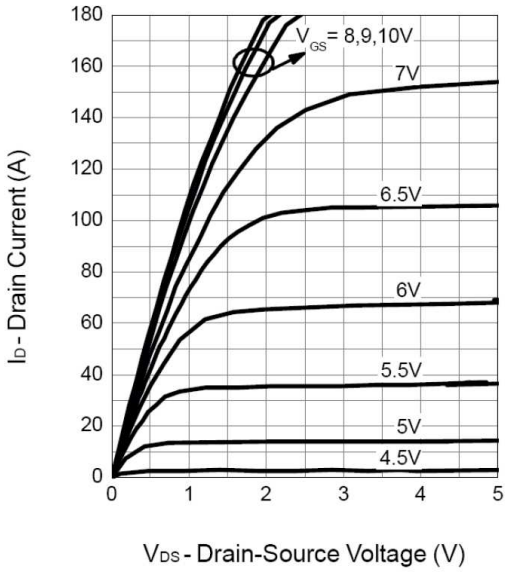
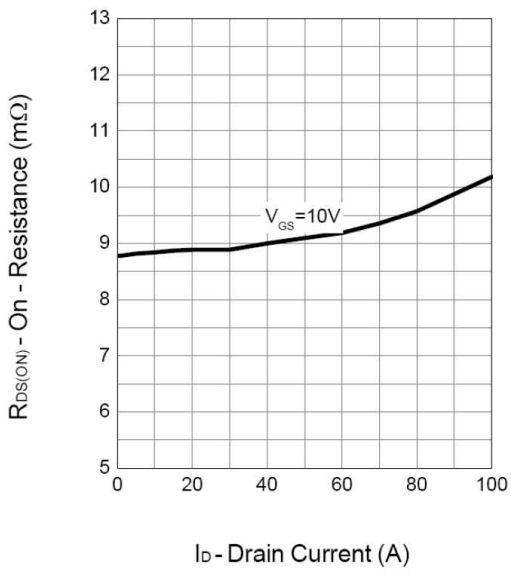
TYPICAL CHARACTERICTICS

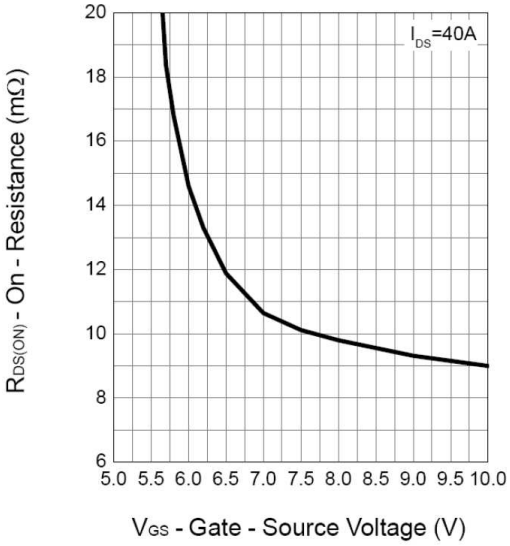
Output Characteristics



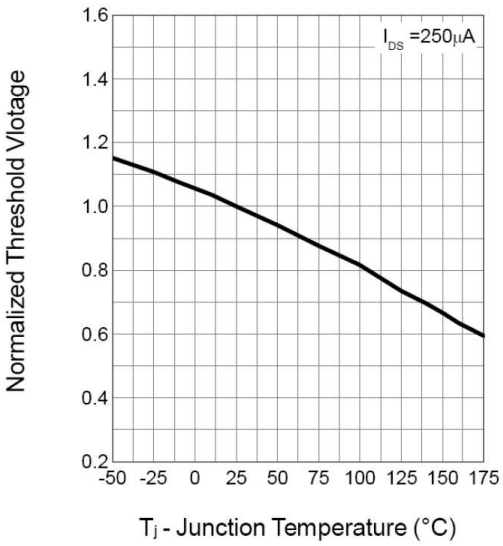
Drain-Source On Resistance



Gate-Source On Resistance



Gate Threshold Voltage



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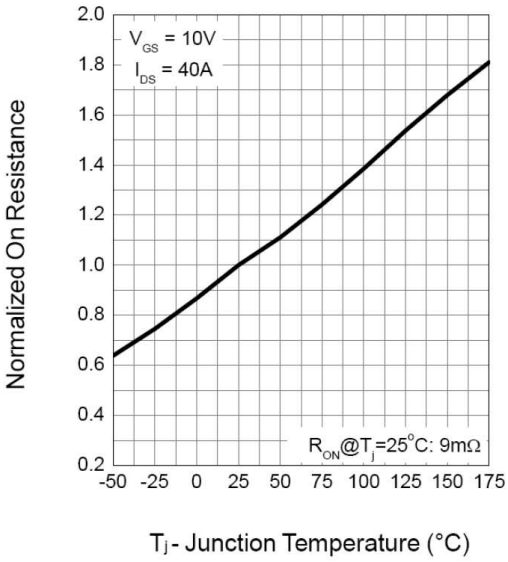
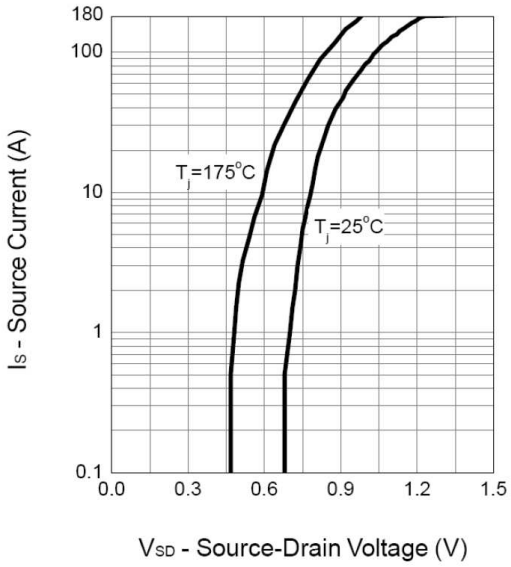
TYPICAL CHARACTERICTICS

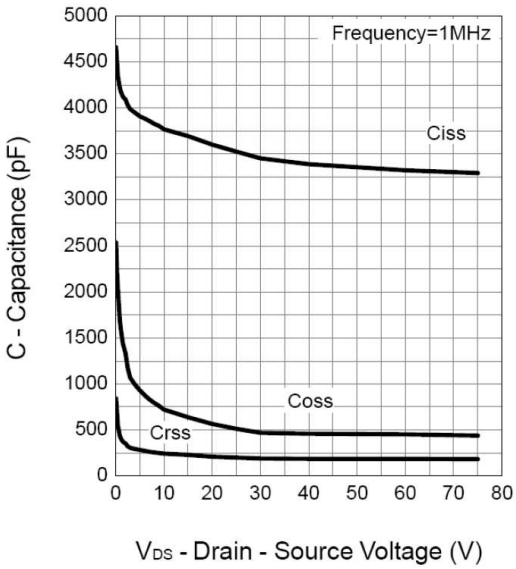
Drain-Source On Resistance



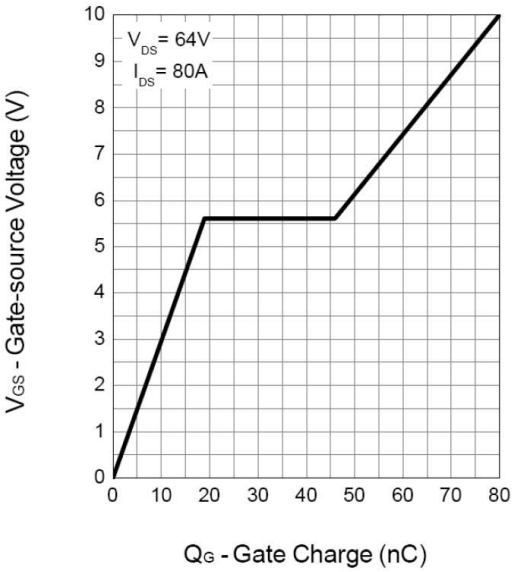
Source-Drain Diode Forward



Capacitance



Gate Charge



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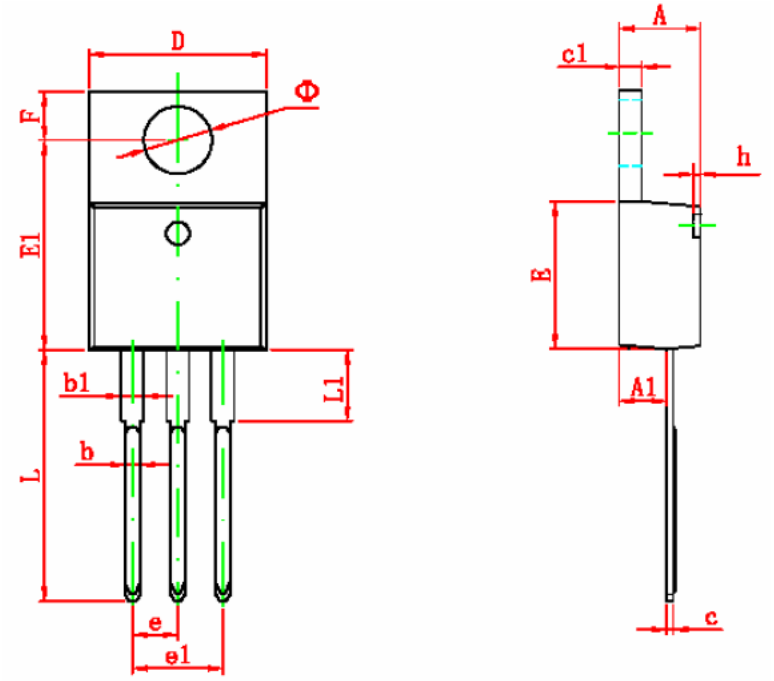
TO220-3L PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
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
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
• •	3.735	3.935	0.147	0.155

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