

Product Summary

- $V_{DS} = 40V, I_D = 7A$
- $R_{DS(on)} < 18m\Omega @ V_{GS} = 10V$
- $R_{DS(on)} < 25m\Omega @ V_{GS} = 4.5V$

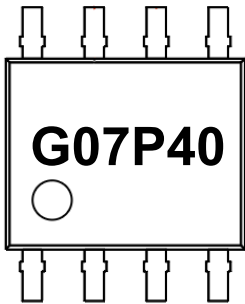
Features

- Advanced Split Gate Trench Technology
- 100% Avalanche Tested
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

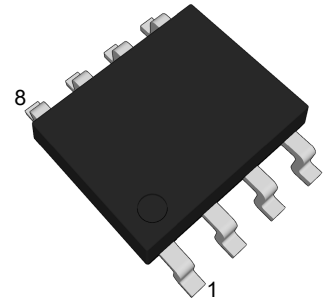
Application

- Load Switch
- PWM Application
- Power Management

Marking Code



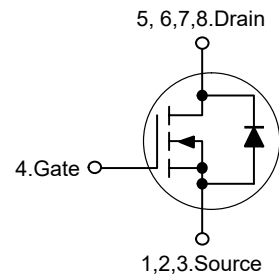
SOP-8



(Top View)

Pin	Description
1,2,3	Source
4	Gate
5,6,7,8	Drain

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	7	A
Drain Current-Pulsed ^{Note1}	I_{DM}	27.2	A
Maximum Power Dissipation	P_D	2.0	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	62.5	°C/W
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Electrical Characteristics

(T_J=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
Drain-to-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250uA	40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =40V, V _{GS} =0V			1.0	uA
Gate-to-source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} =V _{DS} , I _D =250uA	1.0	1.5	2.2	V
Drain-to-source On-resistance	R _{DS(on)}	V _{GS} =10V, I _D =6A		15	18	mΩ
		V _{GS} =4.5V, I _D =5A		20	25	
Forward Trans conductance	g _{FS}	V _{DS} =5.0V, I _D =6A			40	S
CHARGES, CAPACITANCES AND GATE RESISTANCE						
Input Capacitance	C _{ISS}	V _{GS} =0V, f=1MHz, V _{DS} =20V		410		pF
Output Capacitance	C _{OSS}			100		
Reverse Transfer Capacitance	C _{RSS}			35		
Total Gate Charge	Q _{G(TOT)}	V _{GS} =10V, V _{DS} =20V, I _D =6A		8.5		nC
Gate-to-Source Charge	Q _{GS}			1.2		
Gate-to-Drain Charge	Q _{GD}			2.4		
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{d(ON)}	V _{GS} =10V, V _{DS} =20V, R _L =3.3Ω, R _{GEN} =3Ω		4.4		ns
Rise Time	t _r			3.3		
Turn-Off Delay Time	t _{d(OFF)}			15.8		
Fall Time	t _f			3.2		
BODY DIODE CHARACTERISTICS						
Forward Voltage	V _{SD}	V _{GS} =0V, I _S =1.0A	0.45		1.5	V

Typical Characteristic Curves

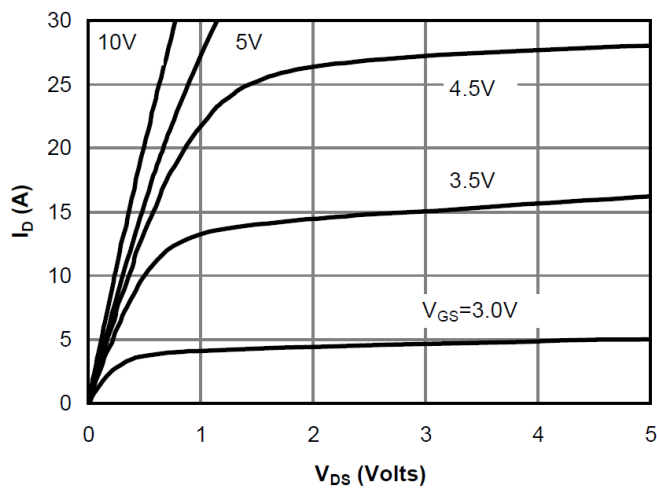


Fig 1: On-Region Characteristics

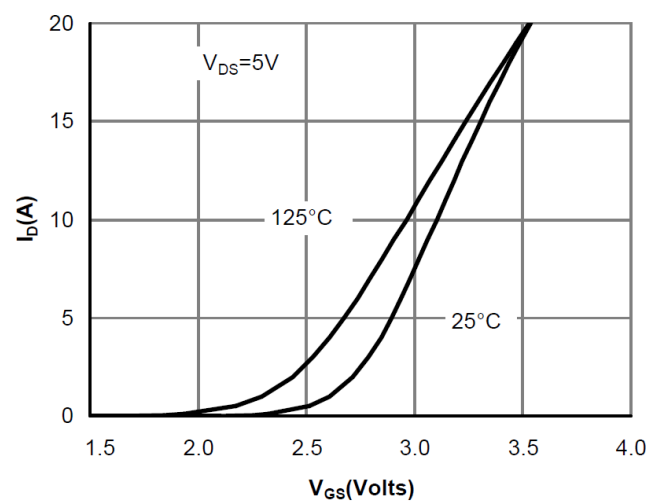


Figure 2: Transfer Characteristics

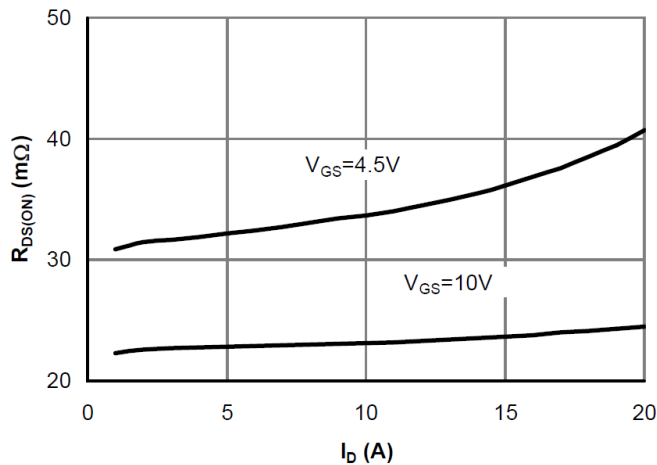


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

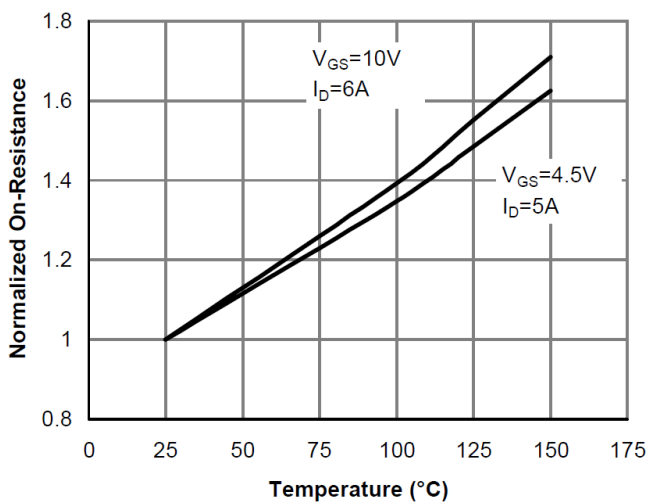


Figure 4: On-Resistance vs. Junction Temperature

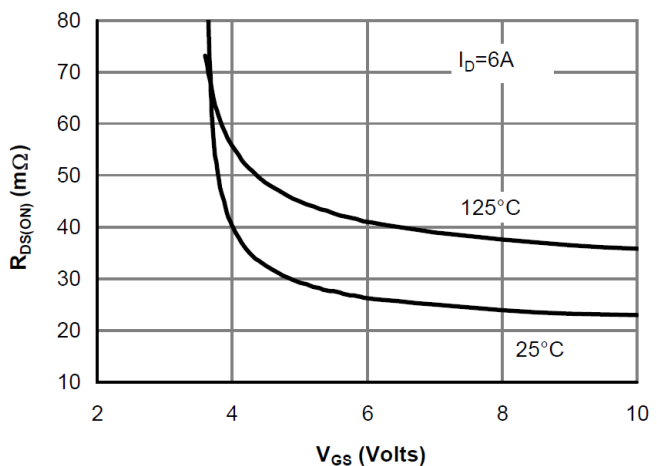


Figure 5: On-Resistance vs. Gate-Source Voltage

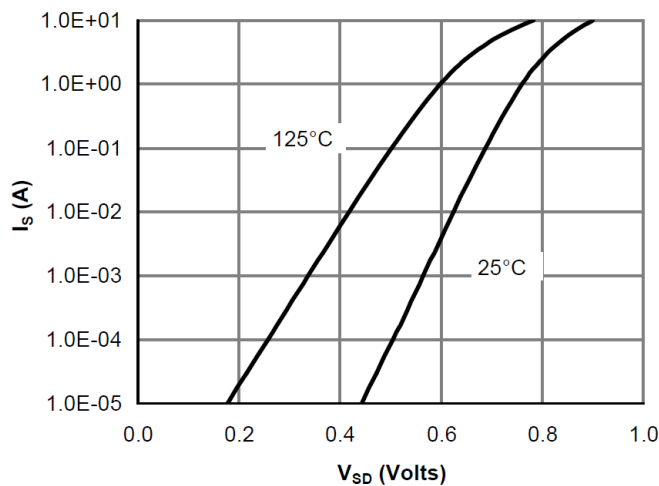


Figure 6: Body-Diode Characteristics

Typical Characteristic Curves

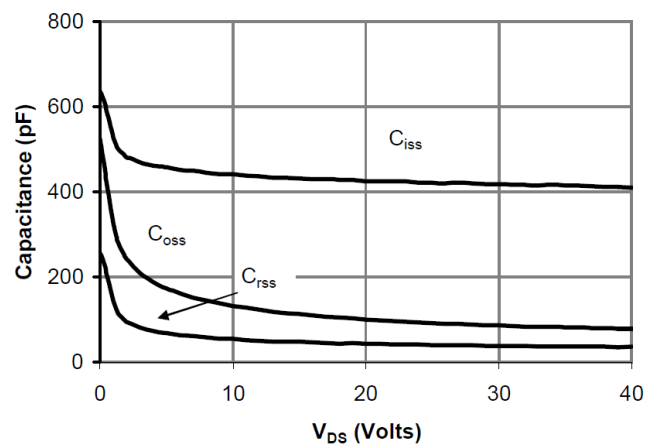
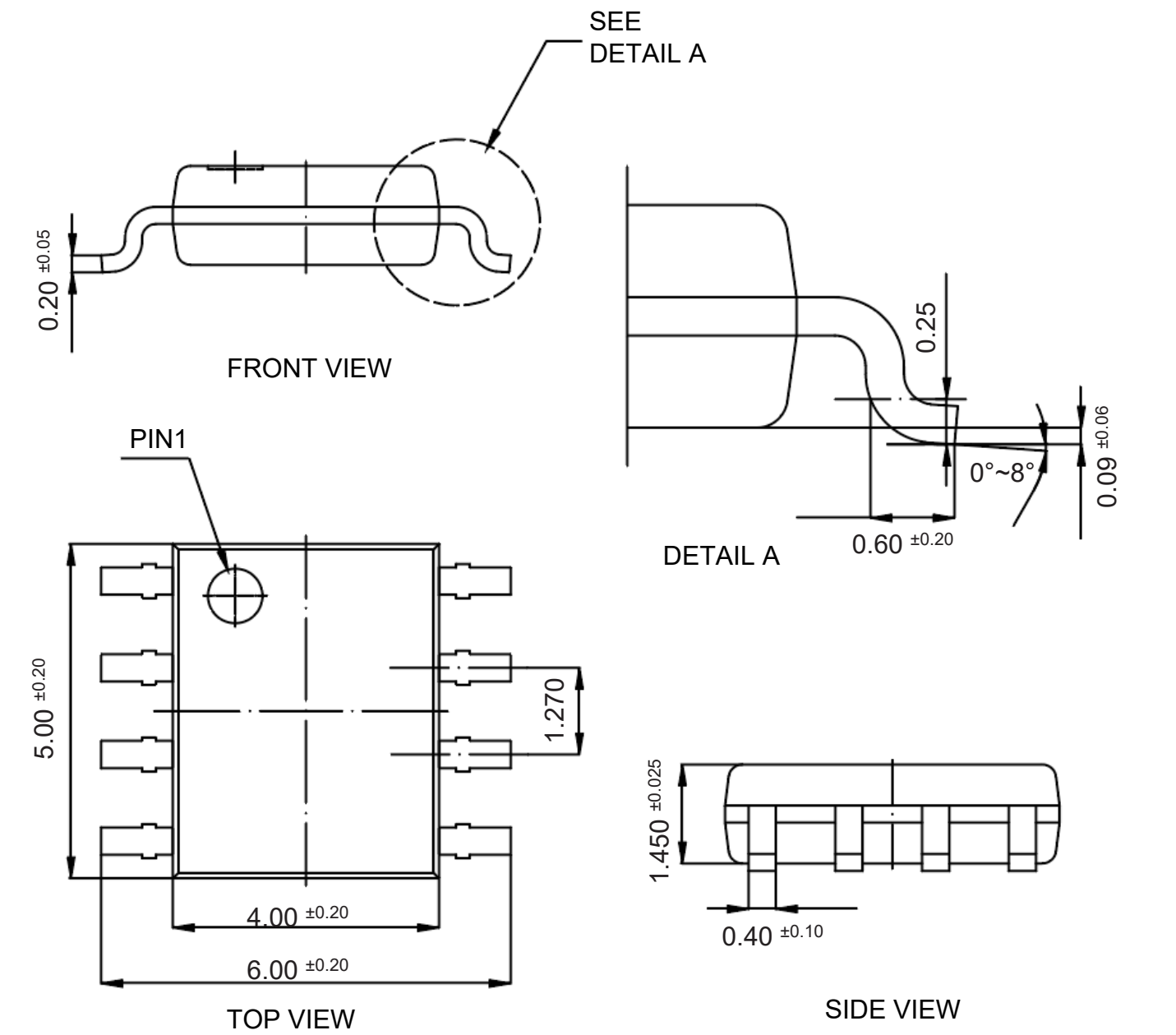


Figure 7: Capacitance Characteristics

Package Outline

SOP-8 Dimensions in mm



Ordering Information

Device	Package	Shipping
TNG07N40PA	SOP-8	4,000PCS/Reel&13inches

Contact Information

TANI website: <http://www.tanisemi.com> Email: tani@tanisemi.com

For additional information, please contact your local Sales Representative.



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