

### Product Summary

- $V_{DS} = -30V, I_D = -15A$
- $R_{DS(on)} < 12m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 20m\Omega @ V_{GS} = -4.5V$

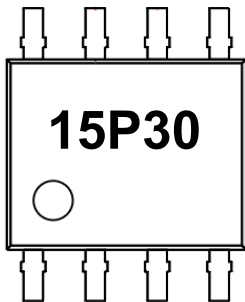
### Features

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

### Application

- Load Switch
- PWM Applications
- Power Management

### Marking Code



### Absolute Maximum Ratings

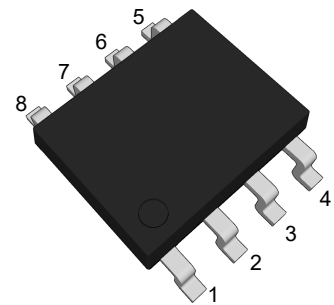
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$-I_D$	15	A
Drain Current-Pulsed <sup>Note1</sup>	$-I_{DM}$	80	A
Maximum Power Dissipation	$P_D$	3	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Thermal Characteristics

Maximum Junction-to-Case <sup>Note2</sup>	$R_{\theta JC}$	41.7	°C/W
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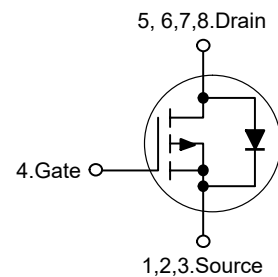
### SOP-8



(Top View)

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

### Schematic Diagram



## Electrical Characteristics

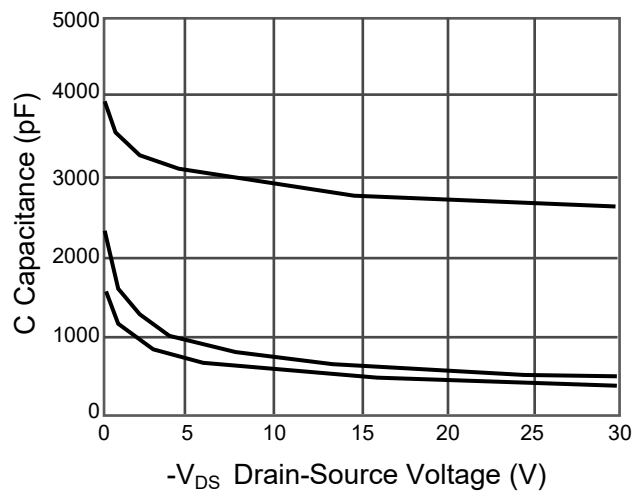
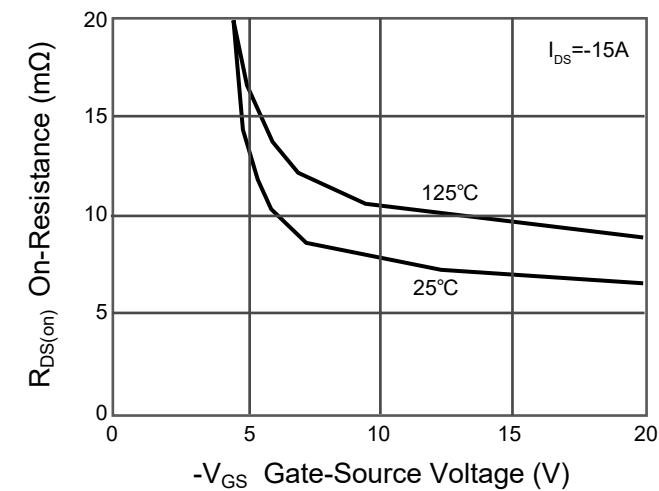
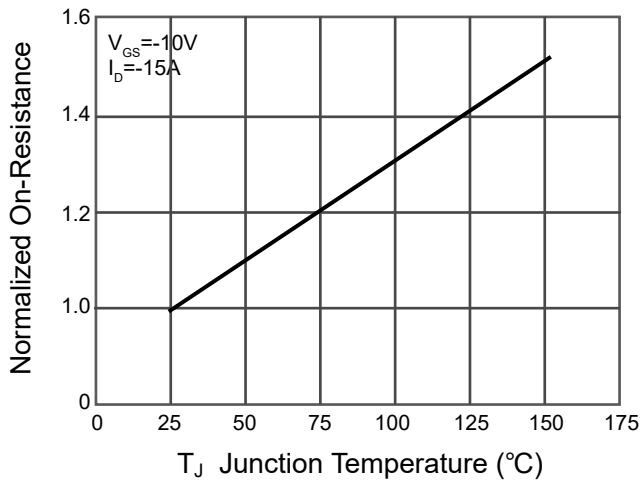
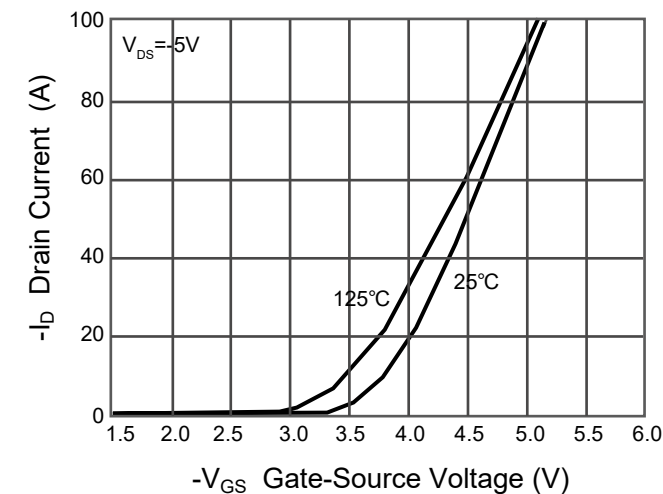
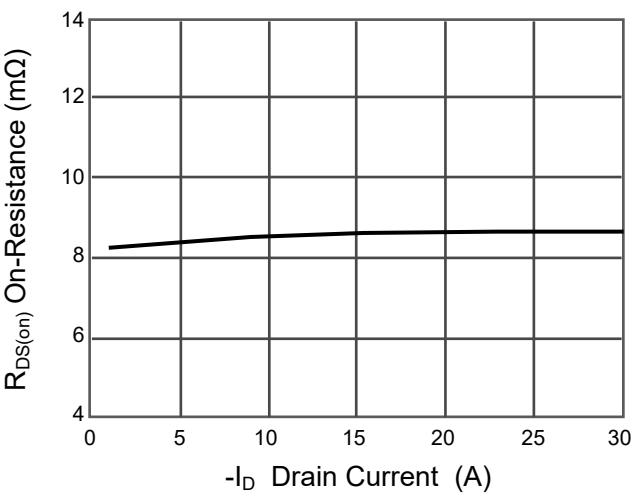
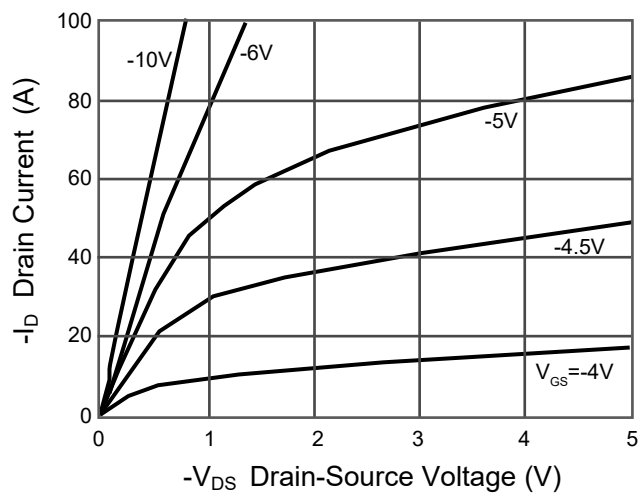
(Ta=25°C unless otherwise specified)

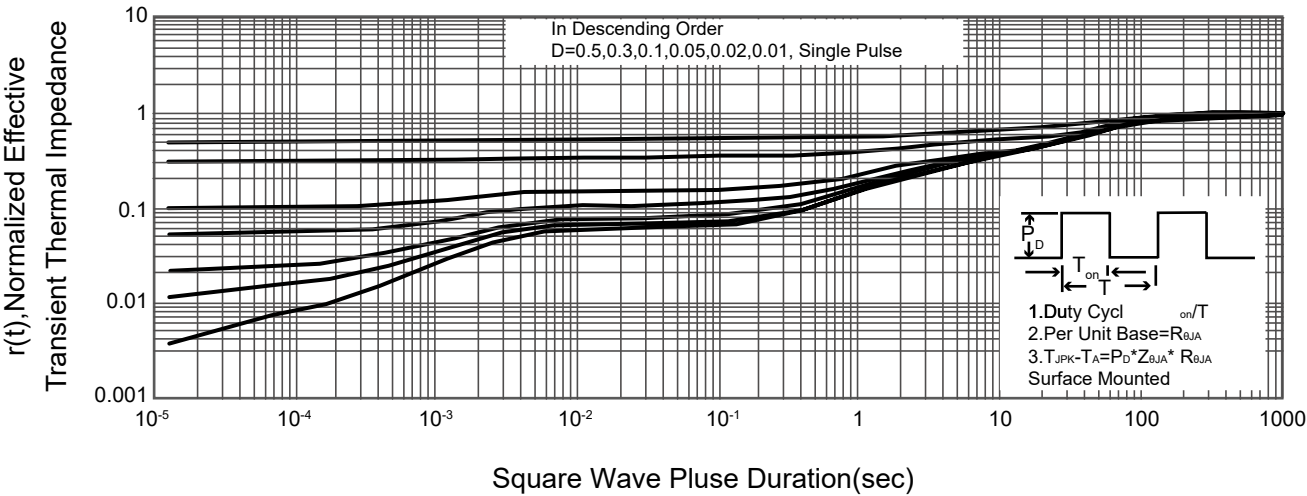
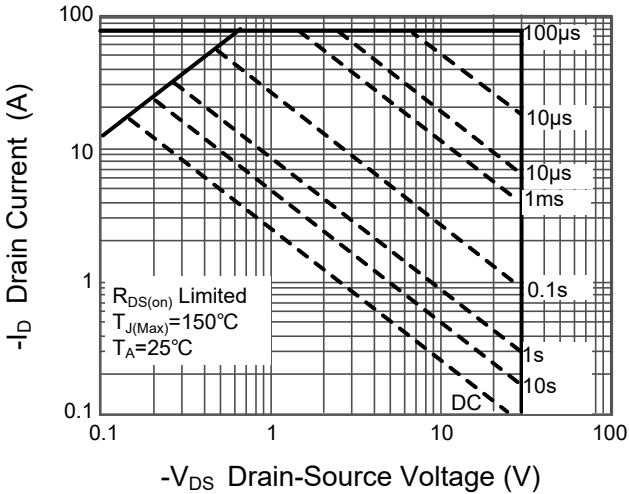
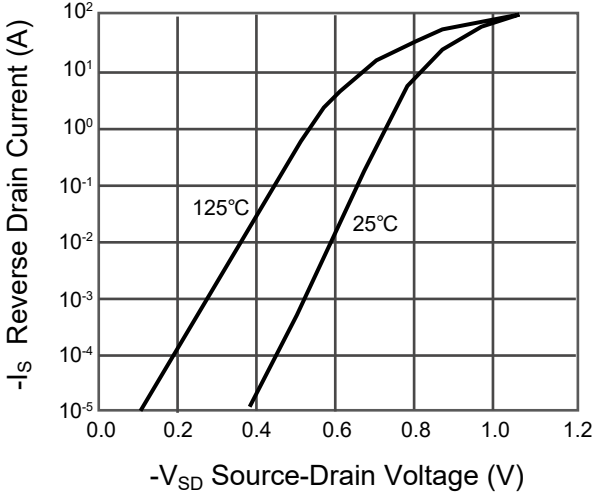
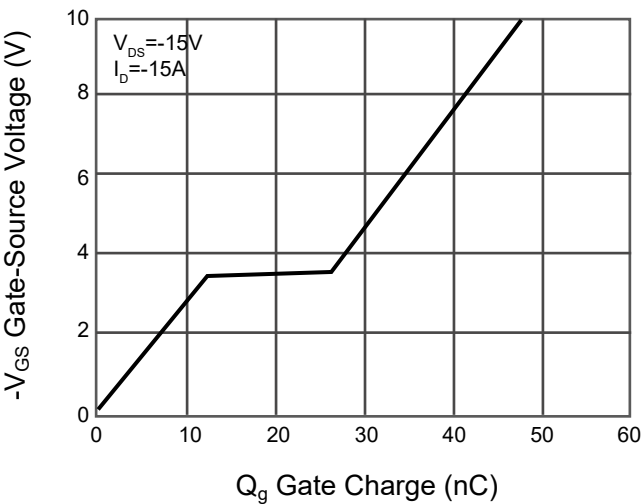
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	30	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	$V_{DS}=-30V, V_{GS}=0V$	--	--	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	$\pm 100$	nA
Gate Threshold Voltage <sup>Note3</sup>	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	1	1.6	2.5	V
Drain-Source On-Resistance <sup>Note3</sup>	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-15A$	--	--	12	m $\Omega$
		$V_{GS}=-4.5V, I_D=-10A$	--	--	20	m $\Omega$
Dynamic Characteristics						
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	--	2800	--	pF
Output Capacitance	$C_{oss}$		--	346	--	pF
Reverse Transfer Capacitance	$C_{rss}$		--	319	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, V_{GS}=-10V$ $I_D=-10A, R_{GEN}=2.5\Omega$	--	14	--	nS
Turn-on Rise Time	$t_r$		--	20	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	95	--	nS
Turn-off Fall Time	$t_f$		--	65	--	nS
Total Gate Charge	$Q_g$	$V_{DS}=-15V, V_{GS}=-10V, I_D=-12A$	--	30	--	nC
Gate-Source Charge	$Q_{gs}$		--	5.3	--	nC
Gate-Drain Charge	$Q_{gd}$		--	7.6	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage <sup>Note3</sup>	$-V_{SD}$	$V_{GS}=0V, I_S=-15A$	--	--	1.2	V
Diode Forward Current <sup>Note2</sup>	$-I_S$		--	--	15	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2.Surface Mounted on FR4 Board,  $t \leq 10$  sec.3.Pulse Test: Pulse width $\leq 300\mu s$ , duty cycle $\leq 2\%$

Typical Characteristic Curves

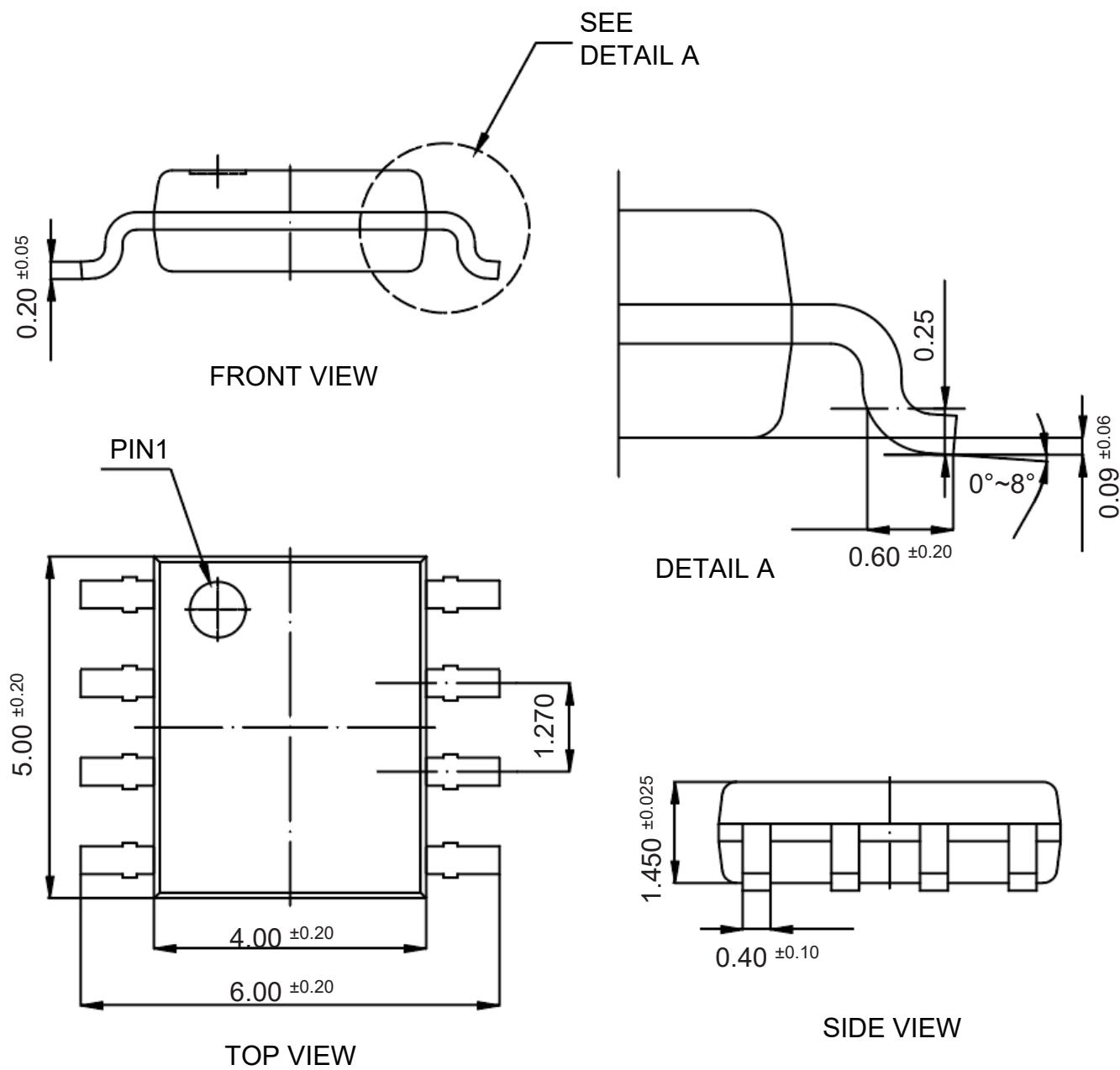




Package Outline

SOP-8

Dimensions in mm



Ordering Information

Device	Package	Shipping
TN15P30PA	SOP-8	4,000PCS/Reel&13inches

## Contact Information

TANI website: <http://www.tanisemi.com> Email: [tani@tanisemi.com](mailto:tani@tanisemi.com)

For additional information, please contact your local Sales Representative.



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