

Product Summary

- $V_{DS} = -60V, I_D = -0.3A$
- $R_{DS(on)} < 6\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 7\Omega @ V_{GS} = -4.5V$

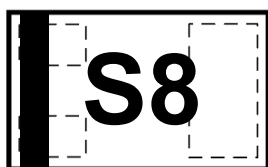
Features

- ESD protected(HBM) up to 2KV
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

Application

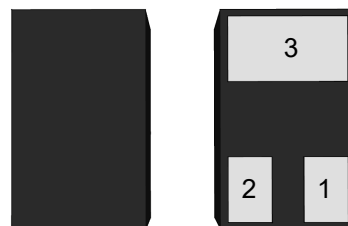
- DC-DC Converters
- Power management
- Battery Operated Systems and Solid-State Relays

Marking Code



Top View

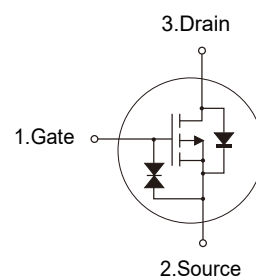
DFN1x0.6-3L



(Top View) (Bottom View)

Pin	Description
1	Gate
2	Source
3	Drain

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	60	V
Gate-Source Voltage	$-V_{GS}$	± 20	V
Drain Current-Continuous	$-I_D$	0.3	A
Drain Current-Pulsed ^{Note1}	$-I_{DM}$	0.8	A
Maximum Power Dissipation	P_D	0.3	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	416	°C/W
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Electrical Characteristics

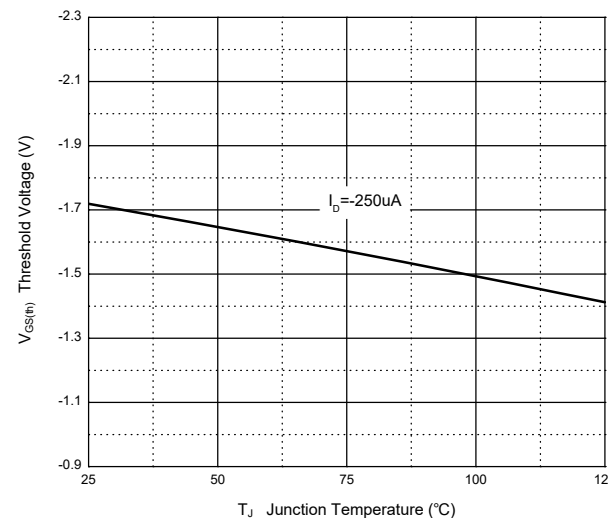
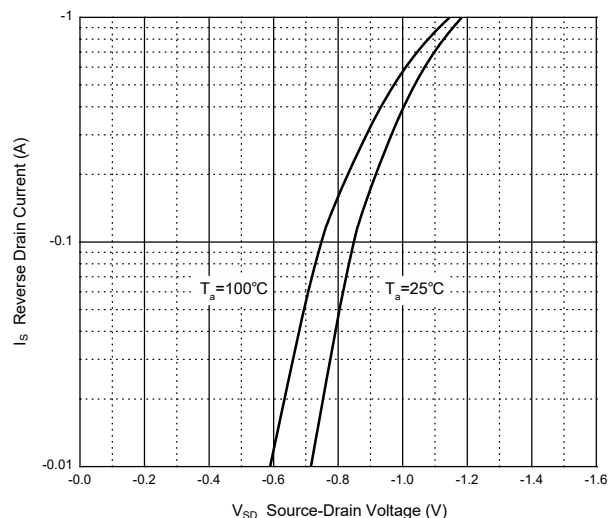
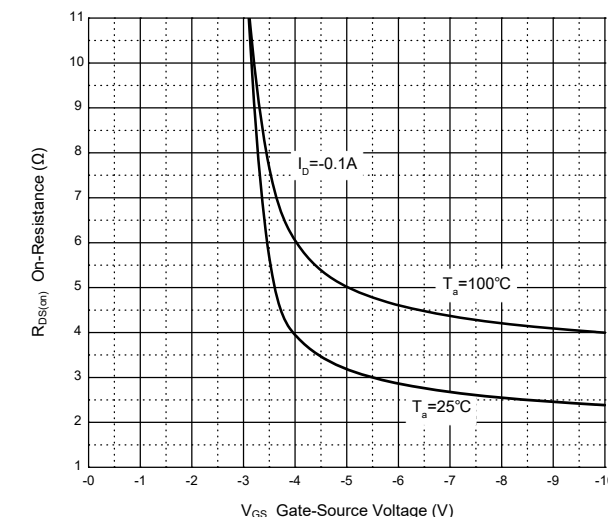
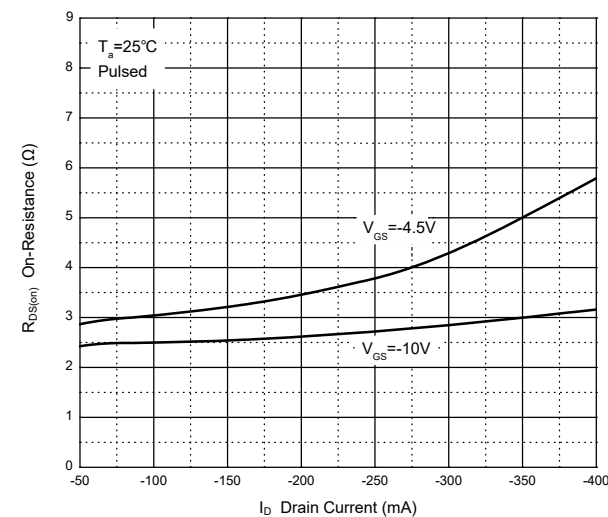
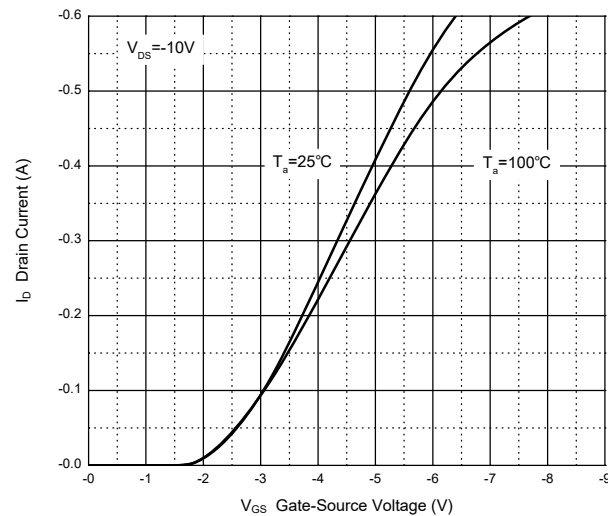
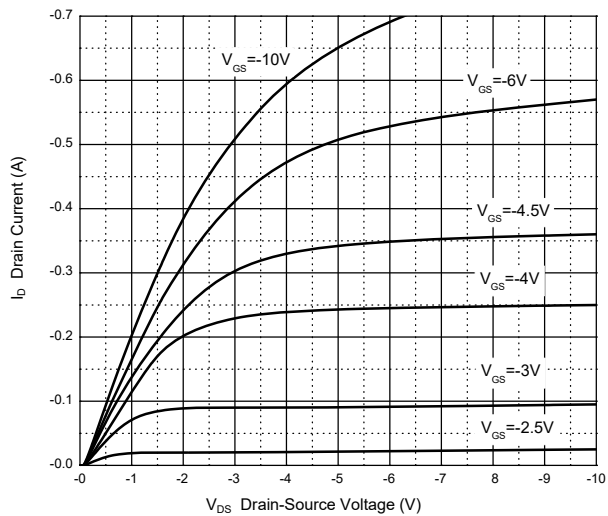
(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	-V _{(BR)DSS}	V _{GS} =0V,I _D =-250μA	60	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} =-48V,V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V,V _{DS} =0V	--	--	±10	μA
Gate Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} =V _{GS} ,I _D =-250μA	0.8	--	2.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =-10V,I _D =-0.3A	--	--	6	Ω
		V _{GS} =-4.5V,I _D =-0.2A	--	--	7	Ω
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =-25V,I _D =-0.1A	0.05	--	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-30V,V _{GS} =0V,f=1MHz	--	43	--	pF
Output Capacitance	C _{oss}		--	2.9	--	pF
Reverse Transfer Capacitance	C _{rss}		--	1.8	--	pF
Total Gate Charge	Q _g	V _{DS} =-30V,I _D =0.15A V _{GS} =-10V	--	1.77	--	nC
Gate-Source Charge	Q _{gs}		--	0.57	--	nC
Gate-Drain Charge	Q _{gd}		--	0.18	--	nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-30V, V _{GS} =-4.5V I _D =-0.15A ,R _{GEN} =2.5Ω	--	8.6	--	nS
Turn-on Rise Time	t _r		--	20	--	nS
Turn-off Delay Time	t _{d(off)}		--	15	--	nS
Turn-off Fall Time	t _f		--	77	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	-V _{SD}	V _{GS} =0V,I _S =0.3A	--	--	1.3	V
Diode Forward Current ^{Note2}	-I _S		--	--	0.3	A

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

2. Device mounted on FR-4 substrate PC board, $t \leq 10$ sec.3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

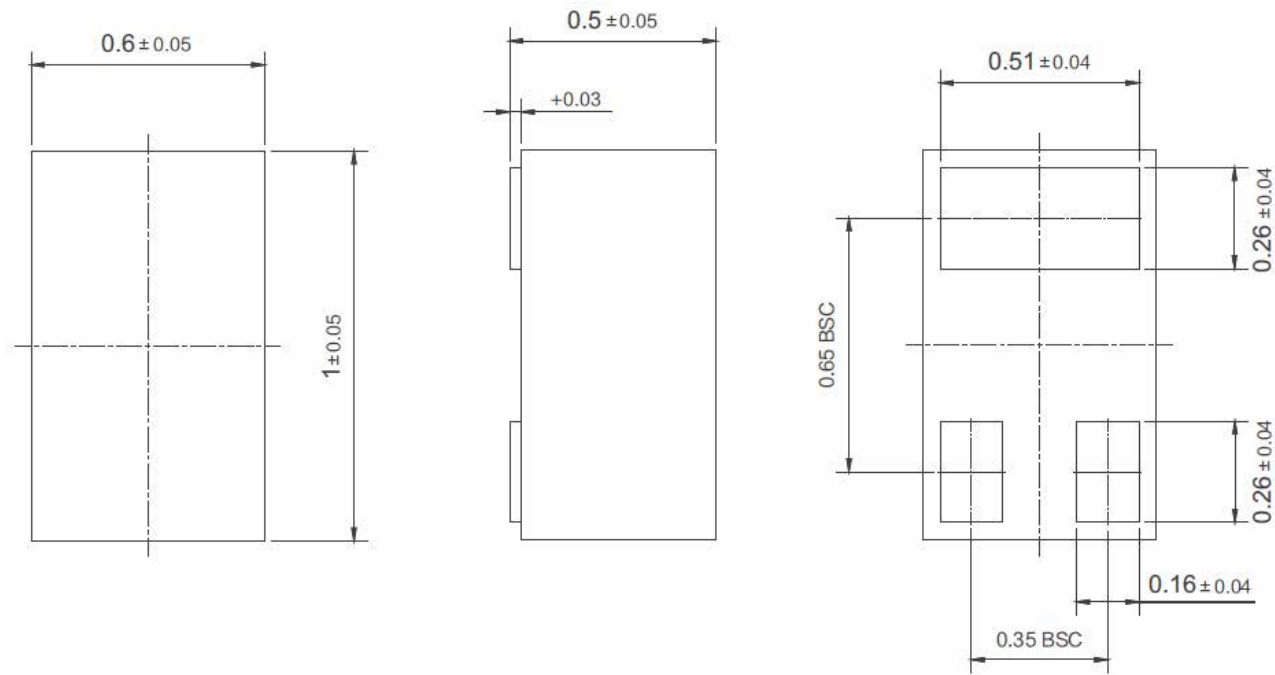
Typical Characteristic Curves



Package Outline

DFN1x0.6-3L-0009

Dimensions in mm




Ordering Information

Device	Package	Shipping
TN0D3P60KDC	DFN1x0.6-3L	10,000PCS/Reel&7inches

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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