

N-Channel Enhancement-Mode MOS Transistors

Product Summary

Part Number	$V_{(BR)DSS}$ Min (V)	$r_{DS(on)}$ Max (Ω)	$V_{GS(th)}$ (V)	I_D (A)
VN50300L	500	300 @ $V_{GS} = 10$ V	1 to 4.5	0.033
VN50300T		300 @ $V_{GS} = 10$ V	1 to 4.5	0.022

Features

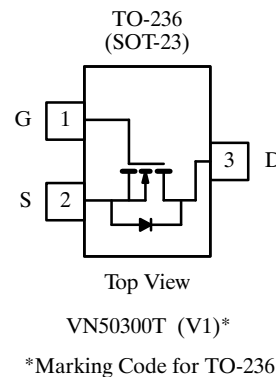
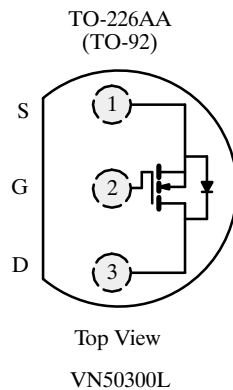
- Moderate On-Resistance: 240 Ω
- Secondary Breakdown Free: 520 V
- Low Power/Voltage Driven
- Low Input and Output Leakage
- Excellent Thermal Stability

Benefits

- Low Offset Voltage
- Full-Voltage Operation
- Easily Driven Without Buffer
- Low Error Voltage
- No High-Temperature “Run-Away”

Applications

- High-Voltage Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Transistors, etc.
- Telephone Mute Switches, Ringer Circuits
- Power Supply, Converters
- Motor Control



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	VN50300L	VN50300T	Unit
Drain-Source Voltage	V_{DS}	500	500	V
Gate-Source Voltage	V_{GS}	± 30	± 30	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	$T_A = 25^\circ\text{C}$	0.033	A
		$T_A = 100^\circ\text{C}$	0.021	
Pulsed Drain Current	I_{DM}	0.013	0.08	
Power Dissipation	P_D	$T_A = 25^\circ\text{C}$	0.8	W
		$T_A = 100^\circ\text{C}$	0.32	
Maximum Junction-to-Ambient	R_{thJA}	156	350	$^\circ\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$

Notes

- a. Pulse width limited by maximum junction temperature.