

N-Channel 240-V (D-S) MOSFET

PRODUCT SUMMARY				
Part Number	$V_{(BR)DSS}$ Min (V)	$r_{DS(on)}$ Max (Ω)	$V_{GS(th)}$ (V)	I_D Min (mA)
TN2460L	240	60 @ $V_{GS} = 10$ V	0.5 to 1.8	75
TN2460T		60 @ $V_{GS} = 10$ V	0.5 to 1.8	51

FEATURES

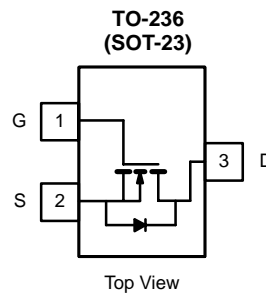
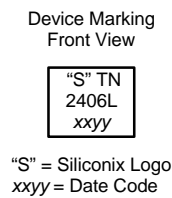
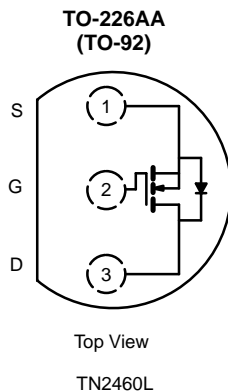
- Low On-Resistance: 40 Ω
- Secondary Breakdown Free: 260 V
- Low Power/Voltage Driven
- Low Input and Output Leakage
- Excellent Thermal Stability

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



Marking Code: T2w//
T2 = Part Number Code for TN2460T
w = Week Code
// = Lot Traceability

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter	Symbol	TN2460L	TN2460T	Unit
Drain-Source Voltage	V_{DS}	240	240	V
Gate-Source Voltage	V_{GS}	± 20	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	$T_A = 25^\circ\text{C}$	75	mA
		$T_A = 100^\circ\text{C}$	48	
Pulsed Drain Current ^a	I_{DM}	800	400	
Power Dissipation	P_D	$T_A = 25^\circ\text{C}$	0.8	W
		$T_A = 100^\circ\text{C}$	0.32	
Thermal Resistance, Junction-to-Ambient	R_{thJA}	156	350	$^\circ\text{C/W}$
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.

SPECIFICATIONS (T _A = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ ^a	Max	
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 10 μA	240	260		V
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.5	1.65	1.8	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V T _J = 125 °C		±5	±10	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 120 V, V _{GS} = 0 V T _J = 125 °C			0.1 5	μA
On-State Drain Current ^b	I _{D(on)}	V _{DS} = 10 V, V _{GS} = 10 V	75	140		mA
		V _{DS} = 10 V, V _{GS} = 4.5 V	20	130		
Drain-Source On-Resistance ^b	r _{DS(on)}	V _{GS} = 10 V, I _D = 0.05 A		38	60	Ω
		V _{GS} = 4.5 V, I _D = 0.02 A T _J = 125 °C		40 75	60 120	
Forward Transconductance ^b	g _{fs}	V _{DS} = 10 V, I _D = 0.05 A	30	70		mS
Dynamic						
Input Capacitance	C _{iss}	V _{DS} = 25 V, V _{GS} = 0 V, f = 1 MHz		14	30	pF
Output Capacitance	C _{oss}		4	15		
Reverse Transfer Capacitance	C _{rss}		1	10		
Switching^c						
Turn-On Time	t _{ON}	V _{DD} = 25 V, R _L = 500 Ω I _D ≅ 0.05 A, V _{GEN} = 10 V, R _G = 25 Ω		8	20	ns
Turn-Off Time	t _{OFF}		20	35		

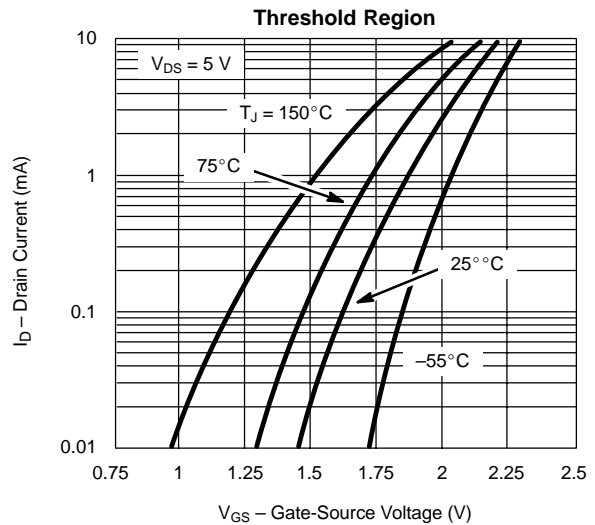
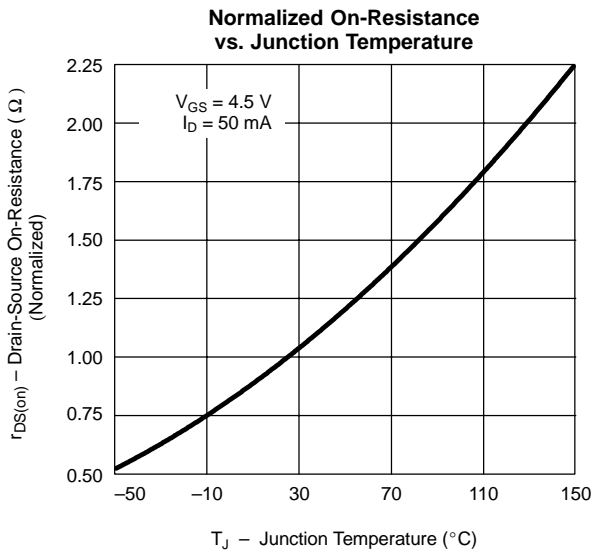
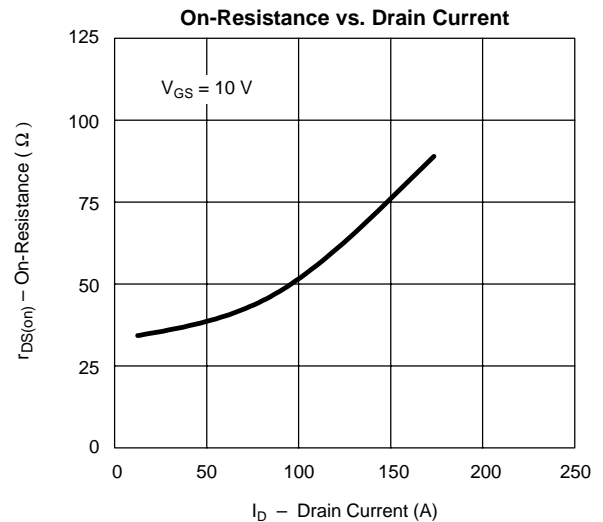
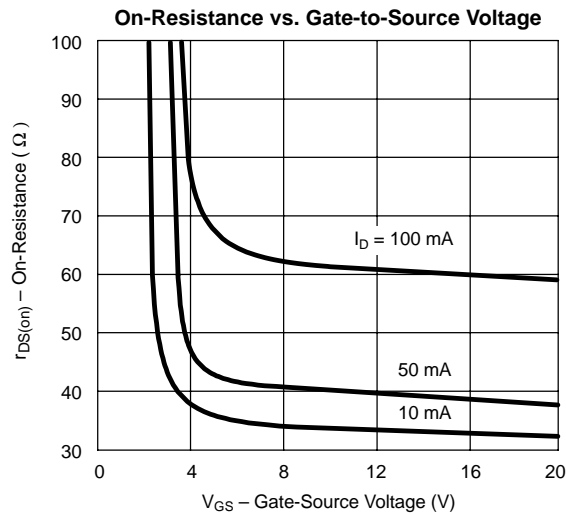
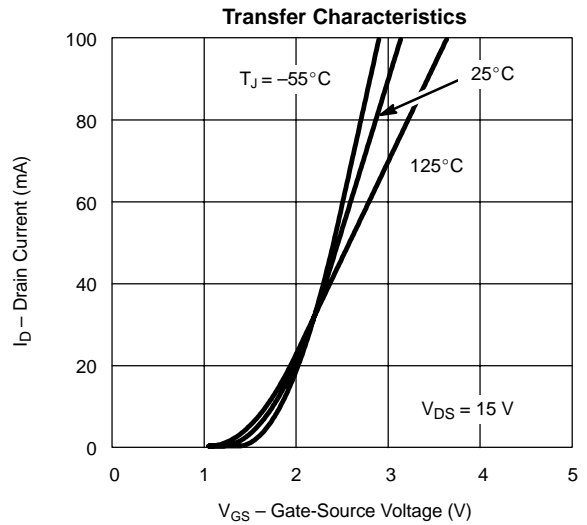
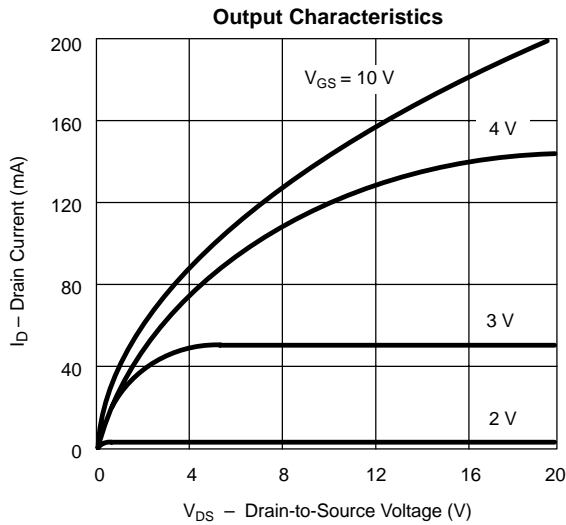
Notes

- a. For DESIGN AID ONLY, not subject to production testing.
- b. Pulse test: PW ≤ 80 μs duty cycle ≤ 1%.
- c. Switching time is essentially independent of operating temperature.

VNDN24



TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)



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