

TN2460L/TN2460T

N-Channel Enhancement-Mode MOSFET Transistors

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

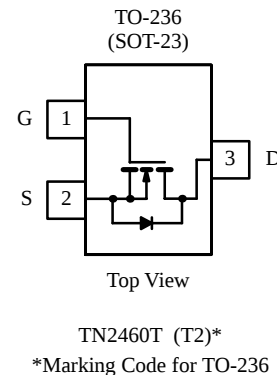
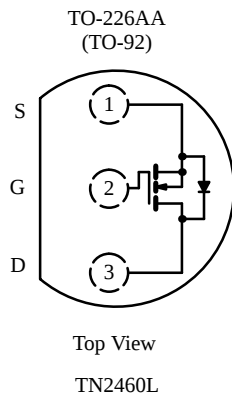
- Low On-Resistance: 40 Ω
- Secondary Breakdown Free: 260 V
- Low Power/Voltage Driven
- Low Input and Output Leakage
- Excellent Thermal Stability

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



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 ($T_J = 150^\circ\text{C}$)	$T_A = 25^\circ\text{C}$	I_D	75	51	mA
	$T_A = 100^\circ\text{C}$		48	32	
Pulsed Drain Current ^a		I_{DM}	800	400	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	0.8	0.36	W
	$T_A = 100^\circ\text{C}$		0.32	0.14	
Maximum Junction-to-Ambient		$R_{\theta JA}$	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.

Updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #70205.

TN2460L/TN2460T

Specifications^a

Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ ^b	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			± 10	nA
		T _J = 125°C		± 5		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 120 V, V _{GS} = 0 V			0.1	μA
		T _J = 125°C			5	
On-State Drain Current ^c	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 ^c	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		40	60	
		T _J = 125°C		75	120	
Forward Transconductance ^c	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 ^d						
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	

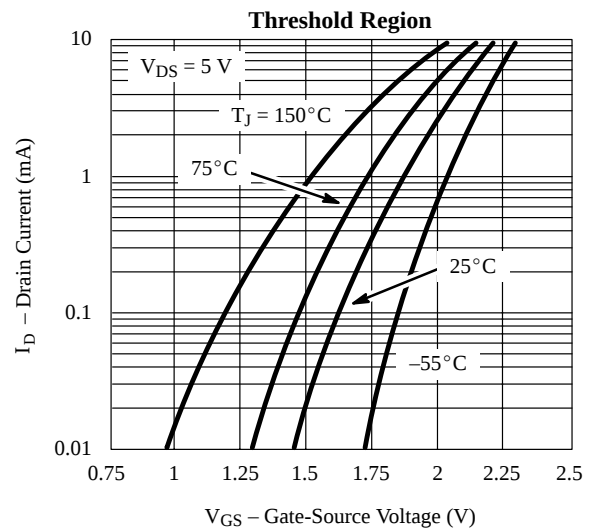
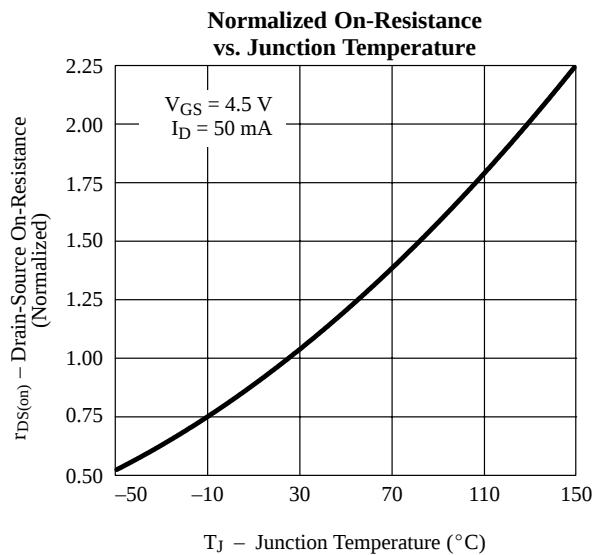
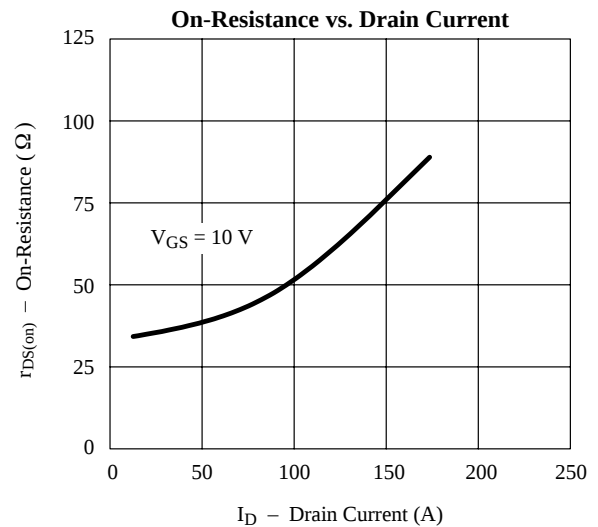
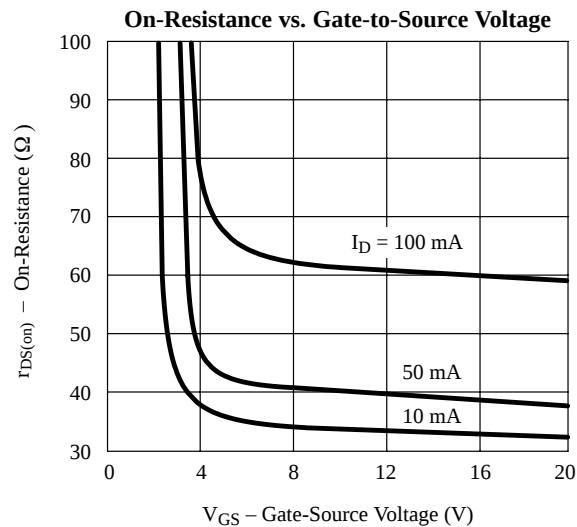
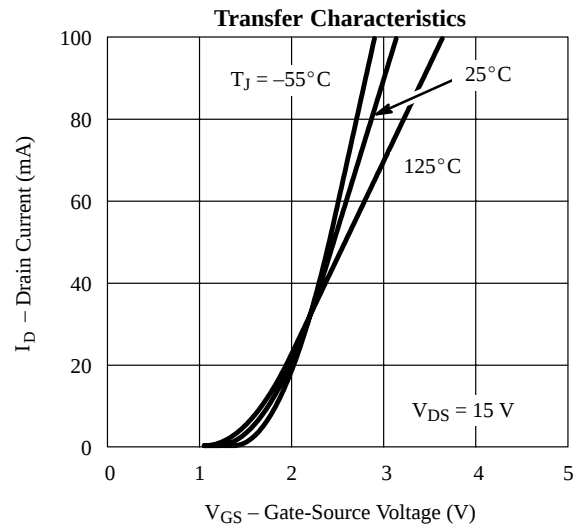
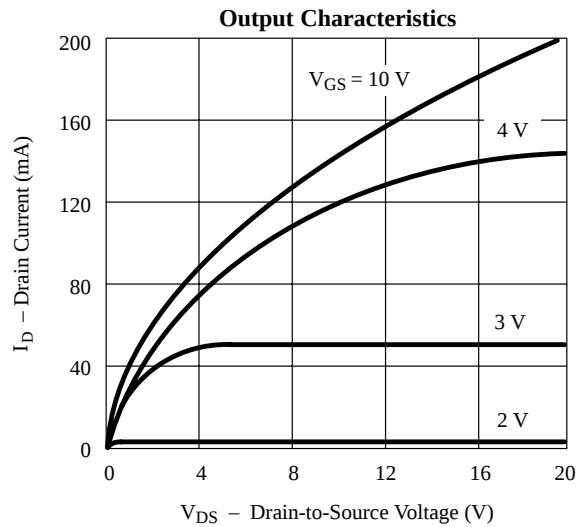
Notes

- $T_A = 25^\circ\text{C}$ unless otherwise noted.
- For DESIGN AID ONLY, not subject to production testing.
- Pulse test: $PW \leq 80\text{ }\mu\text{s}$ duty cycle $\leq 1\%$.
- Switching time is essentially independent of operating temperature.

VNDN24

TN2460L/TN2460T

Typical Characteristics (25°C Unless Otherwise Noted)



TN2460L/TN2460T

Typical Characteristics (25°C Unless Otherwise Noted) (Cont'd)

