

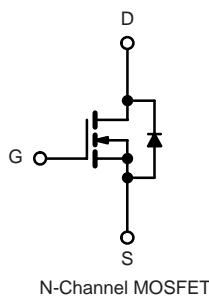
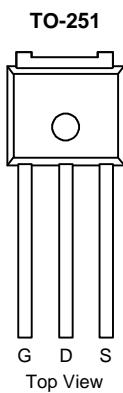
N-Channel 40 V (D-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$R_{DS(on)}$ (Ω)	I_D (A)	Q_g (Typ.)
40	0.0F3 at $V_{GS} = 10$ V	55 ^d	F9.5
	0.0F1 at $V_{GS} = 4.5$ V	15 ^d	

FEATURES

- Halogen-free According to IEC 61249-2-21 Definition
- TrenchFET® Power MOSFET
- 100 % R_g and UIS Tested
- Compliant to RoHS Directive 2002/95/EC



APPLICATIONS

- Power Supply
 - Secondary Synchronous Rectification
- DC/DC Converter

ABSOLUTE MAXIMUM RATINGS $T_C = 25$ °C, unless otherwise noted

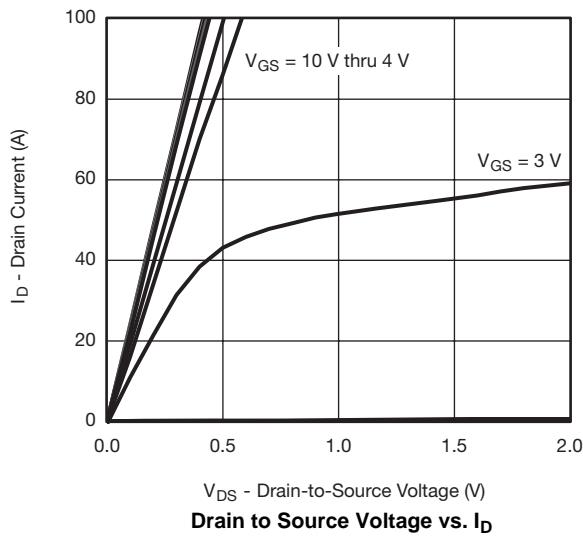
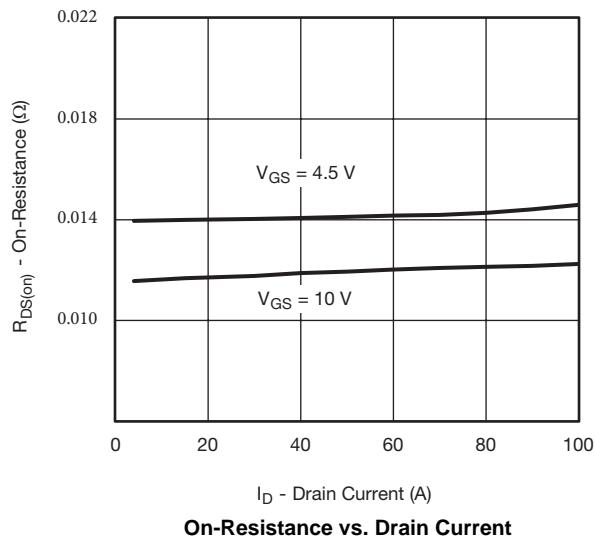
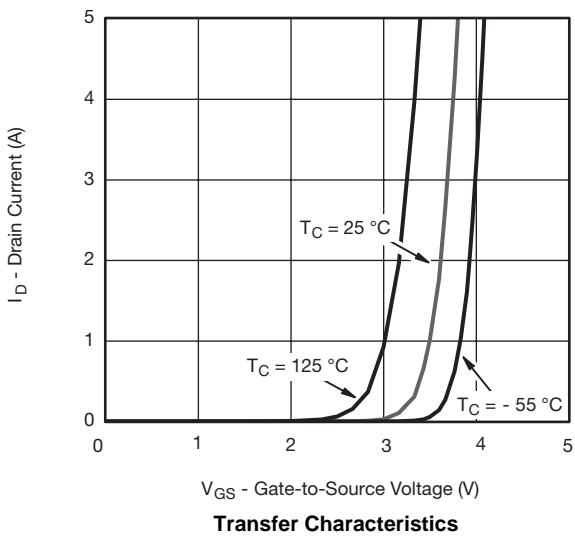
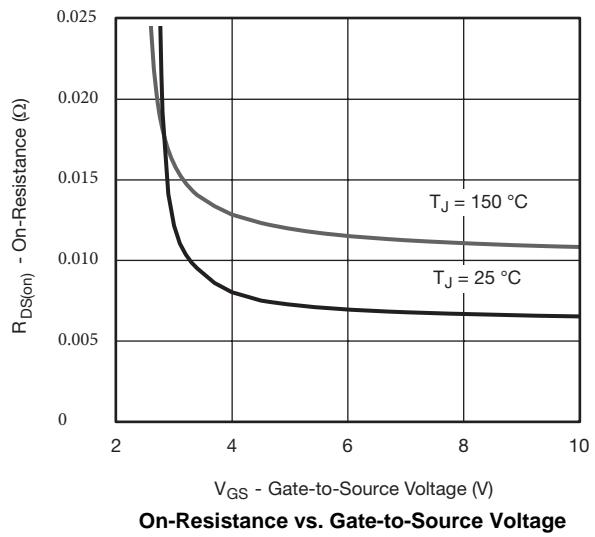
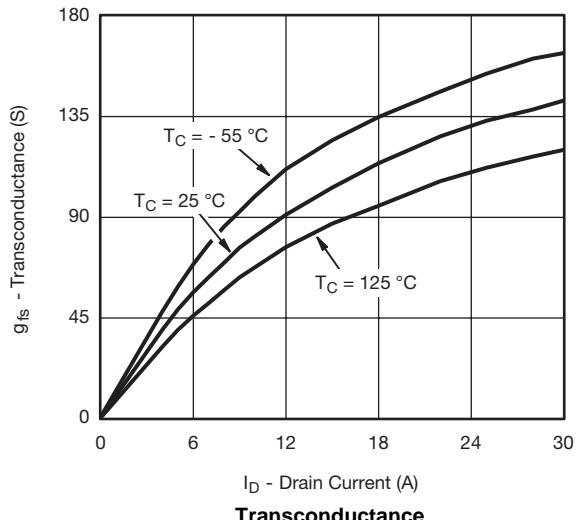
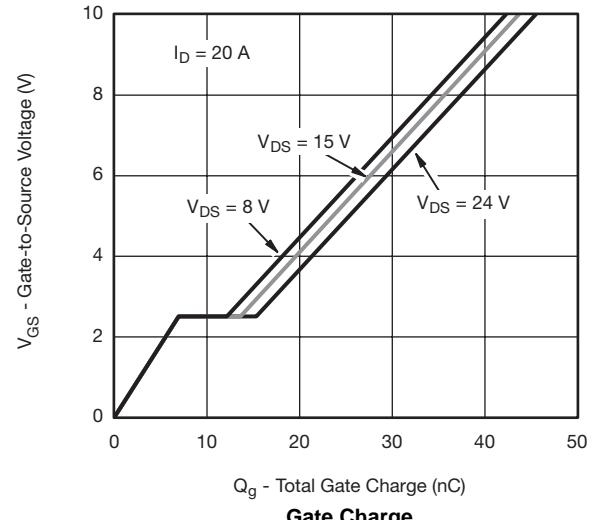
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ($T_J = 150$ °C)	I_D	55 ^d	A
		15 ^d	
Pulsed Drain Current	I_{DM}	165	
Avalanche Current	I_{AS}	H4	
Single Avalanche Energy ^a	E_{AS}	18	mJ
Maximum Power Dissipation ^a	P_D	15.5 ^b	W
		2.7	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to 150	°C

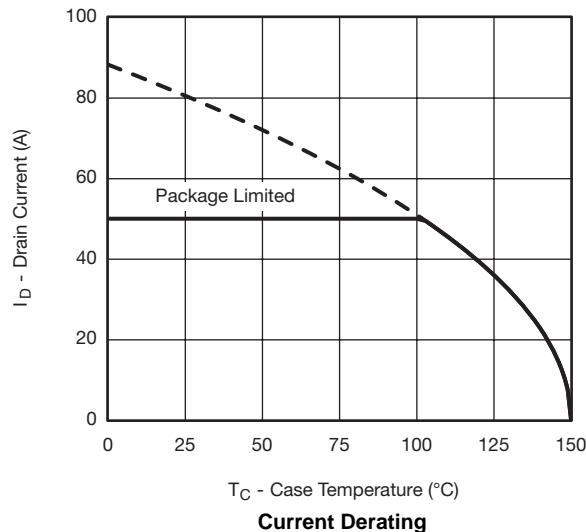
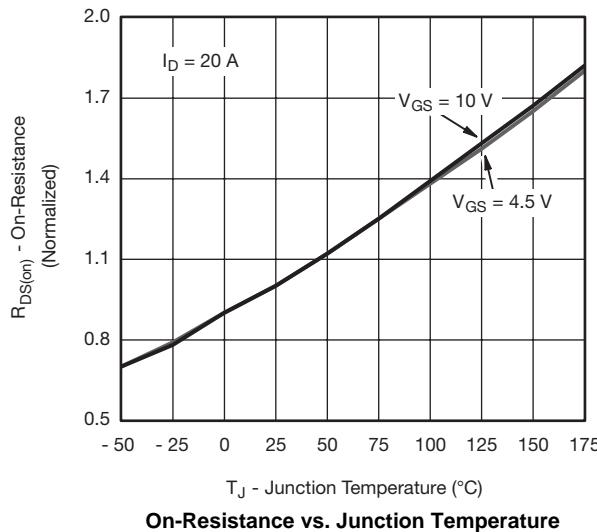
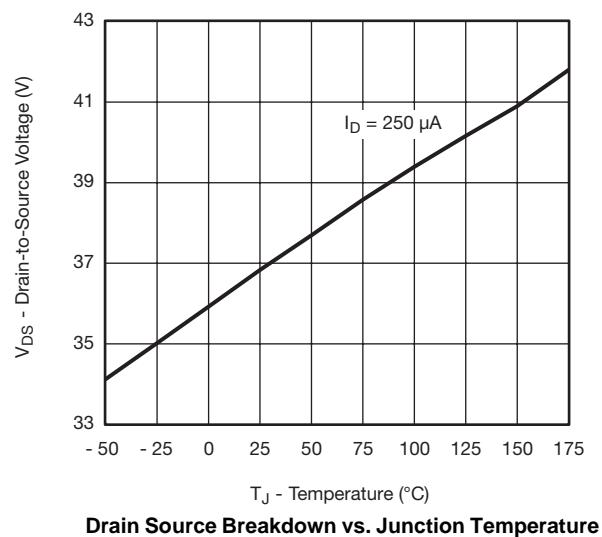
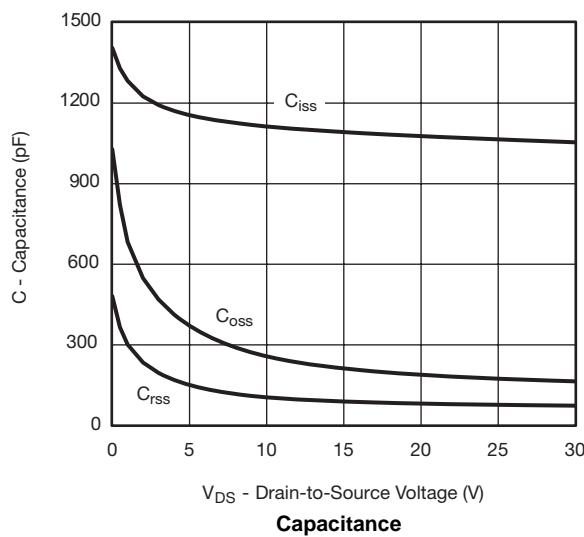
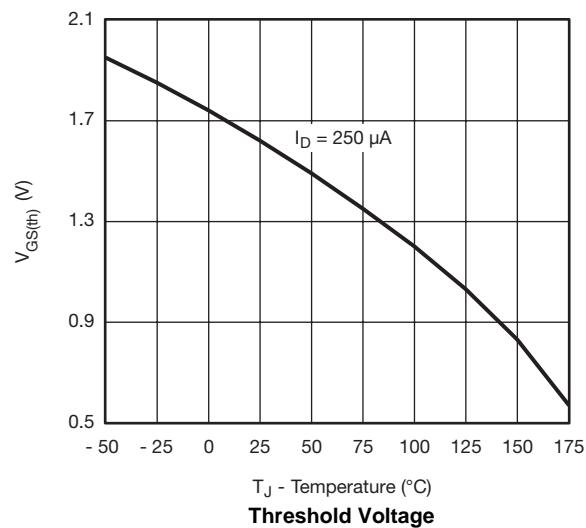
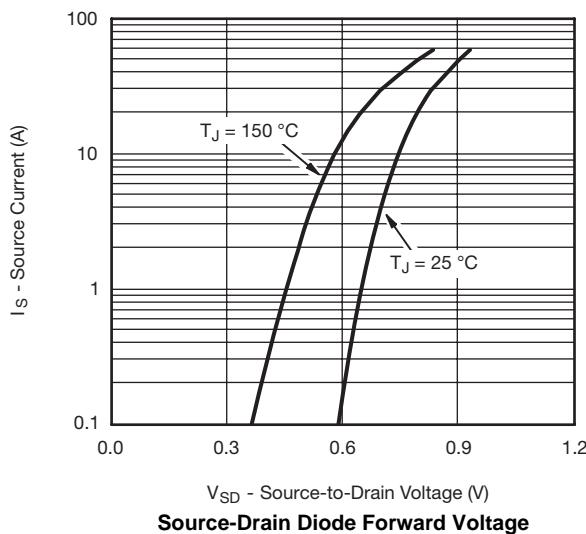
THERMAL RESISTANCE RATINGS

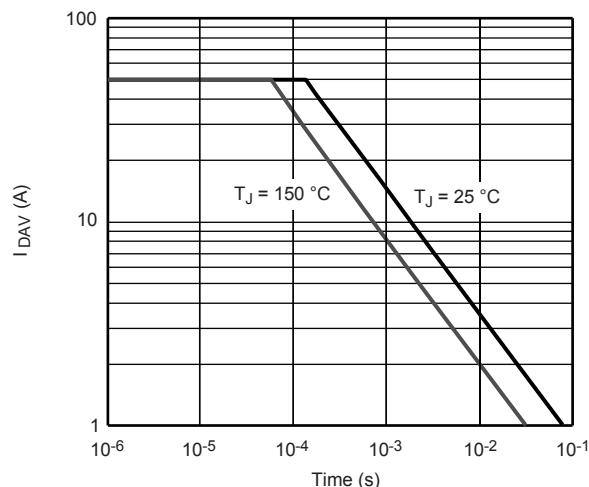
Parameter	Symbol	Limit	Unit
Junction-to-Ambient (PCB Mount) ^c	R_{thJA}	14	°C/W
Junction-to-Case (Drain)	R_{thJC}	2.1	

Notes:

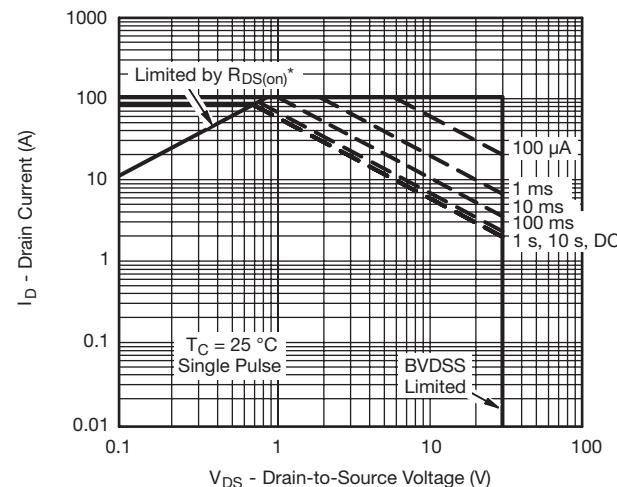
- Duty cycle ≤ 1 %.
- See SOA curve for voltage derating.
- When mounted on 1" square PCB (FR-4 material).
- Package limited.

TYPICAL CHARACTERISTICS 25 °C, unless otherwise noted

Drain to Source Voltage vs. I_D

On-Resistance vs. Drain Current

Transfer Characteristics

On-Resistance vs. Gate-to-Source Voltage

Transconductance

Gate Charge

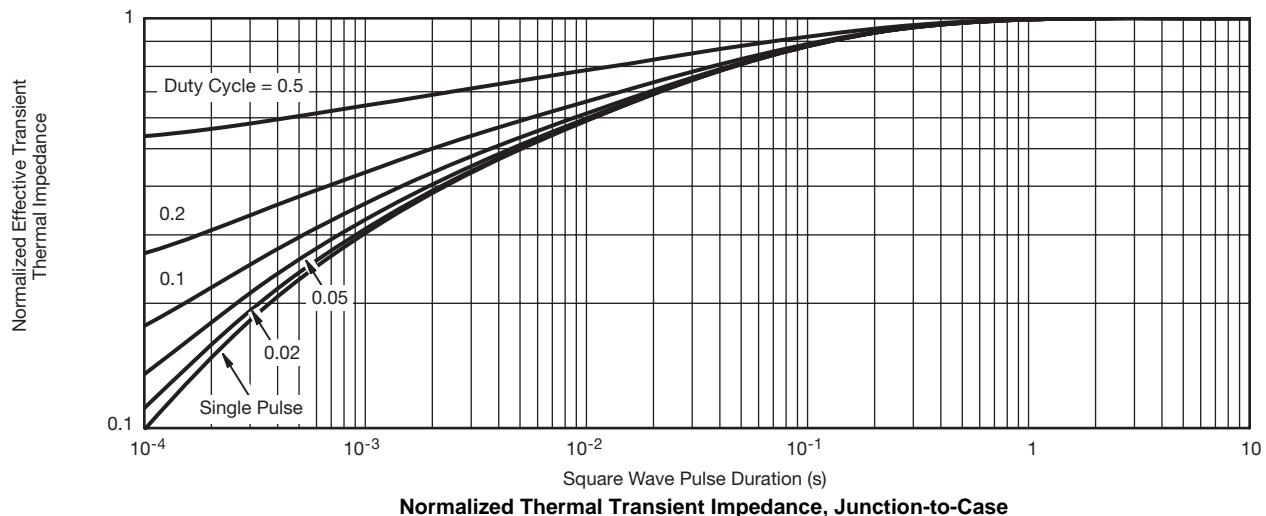
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Single Pulse Avalanche Current Capability vs. Time

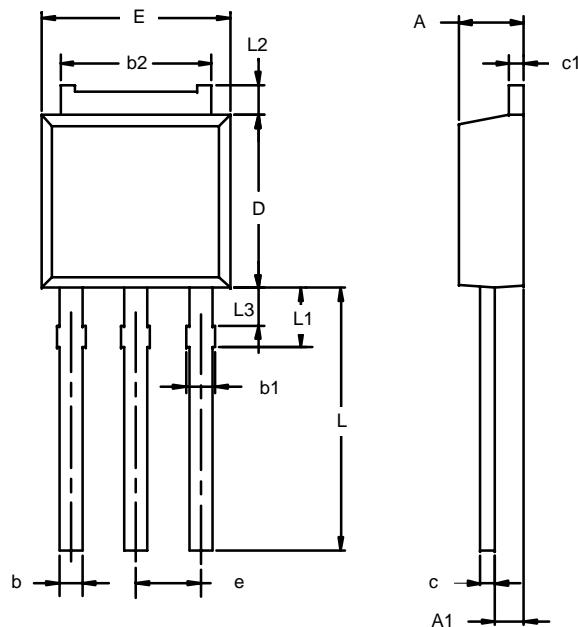


Safe Operating Area



Normalized Thermal Transient Impedance, Junction-to-Case

TO-251AA



Note: Dimension L3 is for reference only.

Dim	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	2.21	2.38	0.087	0.094
A1	0.89	1.14	0.035	0.045
b	0.71	0.89	0.028	0.035
b1	0.76	1.14	0.030	0.045
b2	5.23	5.43	0.206	0.214
c	0.46	0.58	0.018	0.023
c1	0.46	0.58	0.018	0.023
D	5.97	6.22	0.235	0.245
E	6.48	6.73	0.255	0.265
e	2.28 BSC		0.090 BSC	
L	3.89	9.53	0.153	0.375
L1	1.91	2.28	0.075	0.090
L2	0.89	1.27	0.035	0.050
L3	1.15	1.52	0.045	0.060

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DWG: 5346

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