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Product Termination Notification

Product Group: SIL/Wednesday April 1, 2026/PTN-SIL-015-2026-REV-0



Conversion to Copper (Cu) Wire – SQ3585EV

For further information, please contact your regional Vishay office.

CONTACT INFORMATION

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Description of Change: The affected part number listed in this notification will be converted from gold (Au) bond wire to a copper (Cu) wire material set. The new ordering code is SQ3585CEV-T1_GE3 which has identical silicon technology and silicon die design as SQ3585EV. Small changes to the data sheet AC parameters are a consequence of lot to lot variation and/or updated characterization methods (reference: SQ3585CEV Doc # 61721 Rev. A). Device performance in the application will not be impacted. There will be no change to the wafer fab location.

Reason for Change: Capacity Expansion

Expected Influence on Quality/Reliability/Performance: None

Part Numbers/Series/Families Affected: SQ3585EV-T1_GE3

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Last Time Buy Date: Monday October 5, 2026

Last Time Ship Date: Monday April 5, 2027

Sample Availability: Qualified samples of replacement product are available on request

Product Identification: SQ3585CEV-T1_GE3

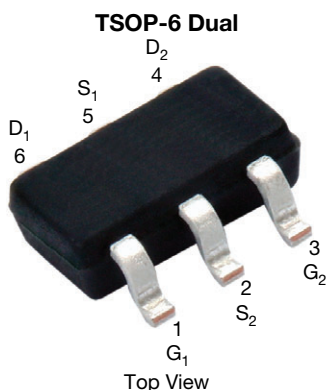
Qualification Data: AEC Q101 qualification data of replacement product is available. Qualification PPAP is available on request.

This PTN is considered approved, without further notification, unless we receive specific customer concerns before Monday September 14, 2026 or as specified by contract.

Issued By: Lance Gurrola, automostechsupport@vishay.com



Automotive N- and P-Channel 20 V (D-S) MOSFET



Marking Code: 9U

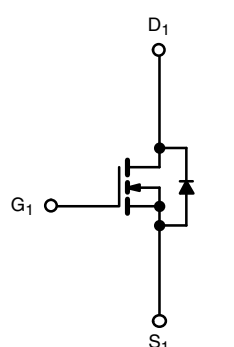
PRODUCT SUMMARY		
	N-CHANNEL	P-CHANNEL
V_{DS} (V)	20	-20
$R_{DS(on)}$ (Ω) at $V_{GS} = \pm 4.5$ V	0.077	0.166
$R_{DS(on)}$ (Ω) at $V_{GS} = \pm 2.5$ V	0.120	0.318
I_D (A)	3.57	-2.5
Configuration	N- and p-pair	

FEATURES

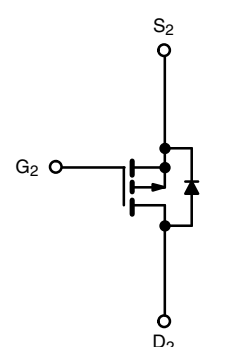
- TrenchFET® power MOSFET
- AEC-Q101 qualified
- 100 % R_g and UIS tested
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE



N-Channel MOSFET



P-Channel MOSFET

ORDERING INFORMATION

Package	TSOP-6 Dual
Lead (Pb)-free and halogen-free	SQ3585CEV (for detailed order number please see www.vishay.com/doc?79771)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25$ °C, unless otherwise noted)

PARAMETER	SYMBOL	N-CHANNEL	P-CHANNEL	UNIT
Drain-source voltage	V_{DS}	20	-20	V
Gate-source voltage	V_{GS}	± 12	± 12	
Continuous drain current	I_D	3.57	-2.5	A
		2	-1.45	
Pulsed drain current	I_{DM}	12	-10	
Continuous source current (diode conduction)	I_S	2.1	-2.1	
Maximum power dissipation	P_D	1.67	1.67	W
		0.56	0.56	
Unclamped inductive surge UIS	I_{AV}	3.3	3	A
Operating junction and storage temperature range	T_J, T_{stg}	-55 to +175		°C

THERMAL RESISTANCE RATINGS

PARAMETER	SYMBOL	N-CHANNEL MAX.	P-CHANNEL MAX.	UNIT
Maximum junction-to-ambient ^a	R_{thJA}	150	150	°C/W
Maximum junction-to-foot (drain)	R_{thJF}	90	90	

Note

a. Surface mounted on 1" x 1" FR4 board



SPECIFICATIONS (T _J = 25°C, unless otherwise noted)								
PARAMETER		SYMBOL	TEST CONDITIONS		MIN.	TYP.	MAX.	UNIT
Static								
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA		N-Ch	0.6	-	1.5	V
		V _{DS} = V _{GS} , I _D = -250 μA		P-Ch	-0.6	-	-1.5	
Gate-body leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V		N-Ch	-	-	± 100	nA
				P-Ch	-	-	± 100	
Zero gate voltage drain current	I _{DSS}	V _{GS} = 0 V	V _{DS} = 20 V	N-Ch	-	-	1	μA
		V _{GS} = 0 V	V _{DS} = -20 V	P-Ch	-	-	-1	
		V _{GS} = 0 V	V _{DS} = 20 V, T _J = 55 °C	N-Ch	-	-	5	
		V _{GS} = 0 V	V _{DS} = -20 V, T _J = 55 °C	P-Ch	-	-	-5	
On-state drain current ^a	I _{D(on)}	V _{GS} = 4.5 V	V _{DS} ≥ 5 V	N-Ch	5	-	-	A
		V _{GS} = -4.5 V	V _{DS} ≤ -5 V	P-Ch	-5	-	-	
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} = 4.5 V	I _D = 1 A	N-Ch	-	0.049	0.077	Ω
		V _{GS} = -4.5 V	I _D = -1 A	P-Ch	-	0.140	0.166	
		V _{GS} = 2.5 V	I _D = 1 A	N-Ch	-	0.066	0.120	
		V _{GS} = -2.5 V	I _D = -1 A	P-Ch	-	0.265	0.318	
Forward transconductance ^a	g _{fs}	V _{DS} = 5 V, I _D = 1 A		N-Ch	-	7	-	S
		V _{DS} = -5 V, I _D = -1 A		P-Ch	-	3	-	
Diode forward voltage ^a	V _{SD}	I _S = 1.05 A, V _{GS} = 0 V		N-Ch	-	0.80	1.10	V
		I _S = -1.05 A, V _{GS} = 0 V		P-Ch	-	-0.83	-1.10	
Dynamic ^b								
Total gate charge	Q _g	V _{GS} = 4.5 V	V _{DS} = 10 V, I _D = 1 A	N-Ch	-	2.0	3.0	nC
		V _{GS} = -4.5 V	V _{DS} = -10 V, I _D = -1 A	P-Ch	-	3.0	5.0	
Gate-source charge	Q _{gs}	V _{GS} = 4.5 V	V _{DS} = 10 V, I _D = 1 A	N-Ch	-	1.0	-	
		V _{GS} = -4.5 V	V _{DS} = -10 V, I _D = -1 A	P-Ch	-	1.0	-	
Gate-drain charge	Q _{gd}	V _{GS} = 4.5 V	V _{DS} = 10 V, I _D = 1 A	N-Ch	-	1.0	-	
		V _{GS} = -4.5 V	V _{DS} = -10 V, I _D = -1 A	P-Ch	-	1.0	-	
Gate resistance	R _g	f = 1 MHz		N-Ch	3.4	-	9.1	Ω
				P-Ch	3.4	-	9.1	
Turn-on delay time	t _{d(on)}	N-Channel V _{DD} = 10 V, R _L = 10 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _g = 1 Ω P-Channel V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _g = 1 Ω		N-Ch	-	11	17	ns
Rise time	t _r			P-Ch	-	9	14	
				N-Ch	-	15	23	
				P-Ch	-	18	27	
Turn-off delay time	t _{d(off)}			N-Ch	-	19	29	
				P-Ch	-	14	21	
Fall time	t _f	N-Ch	-	8	12			
		P-Ch	-	5	9			

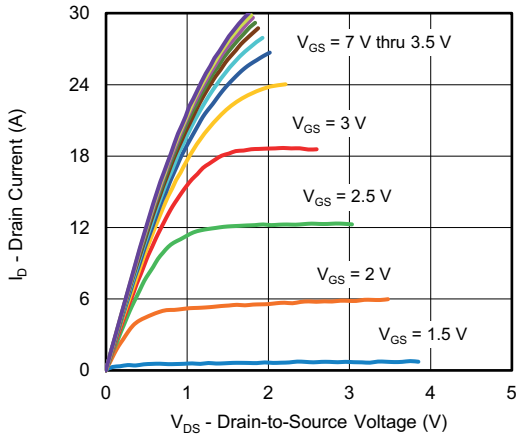
Notes

- a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\ \%$
b. Guaranteed by design, not subject to production testing

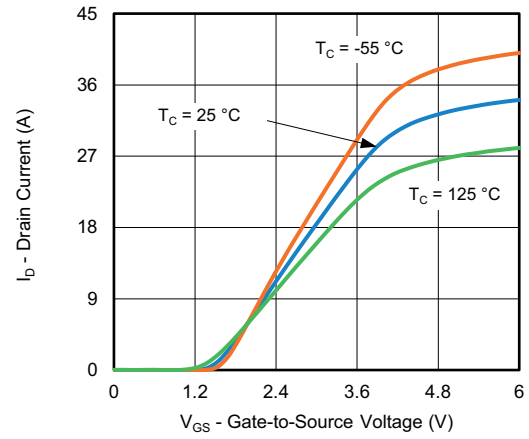
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



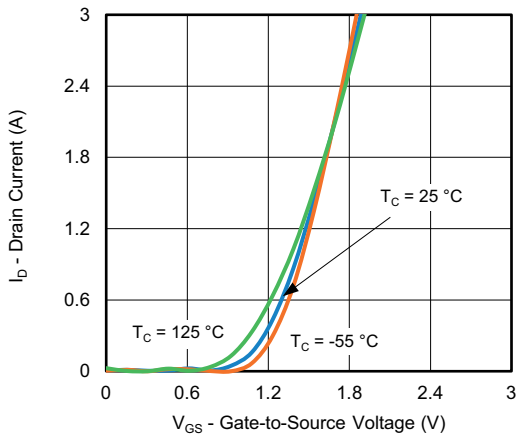
N-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)



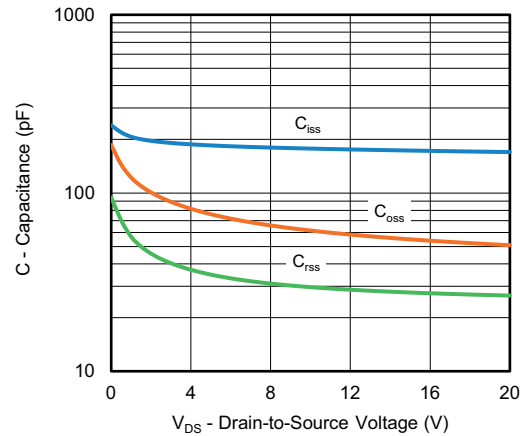
Output Characteristics



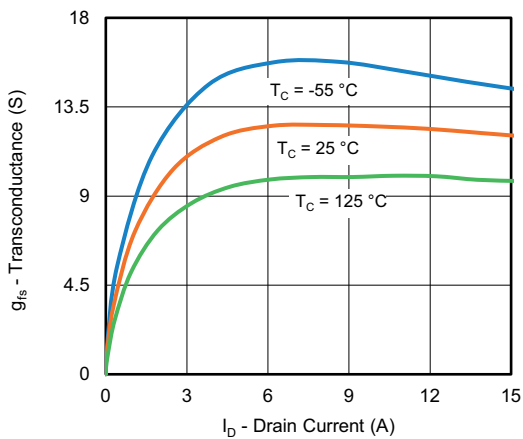
Transfer Characteristics



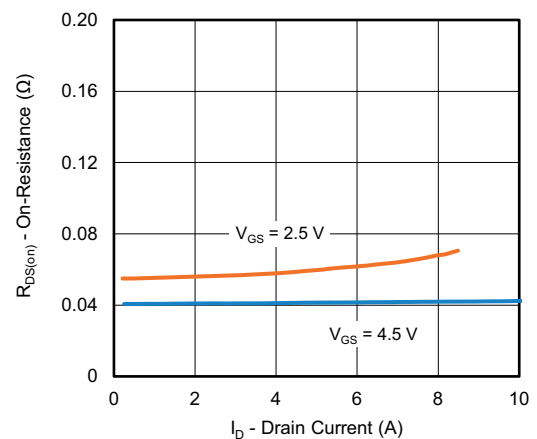
Transfer Characteristics



Capacitance



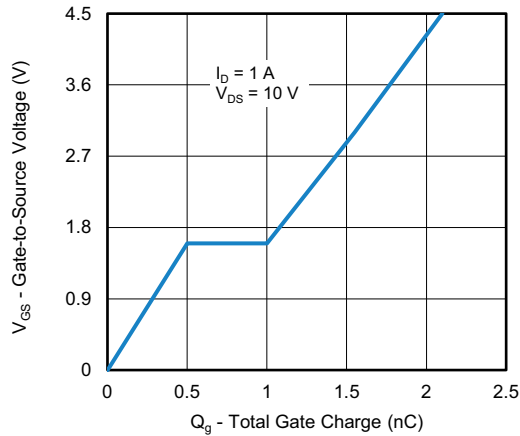
Transconductance



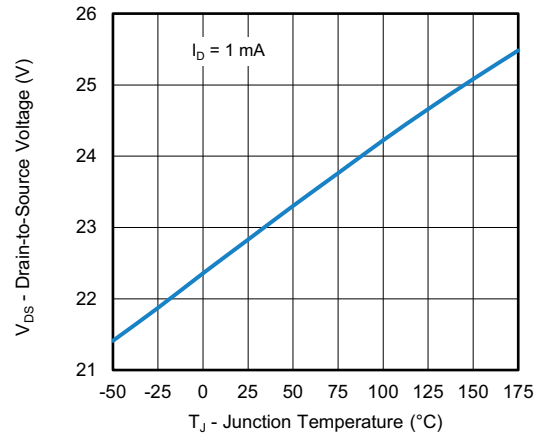
On-Resistance vs. Drain Current



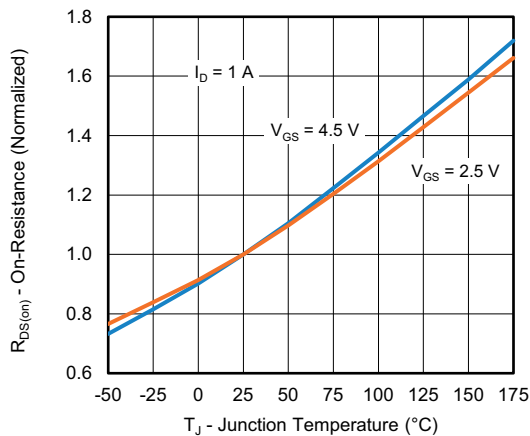
N-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)



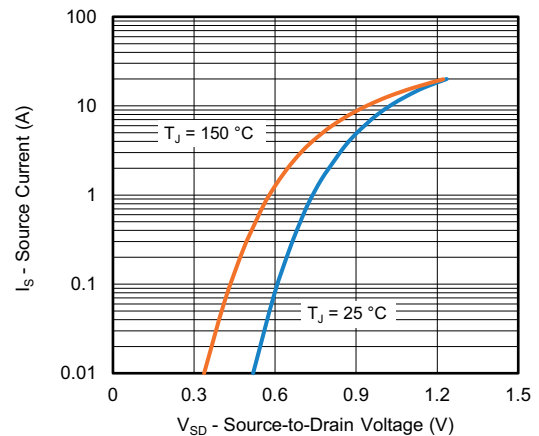
Gate Charge



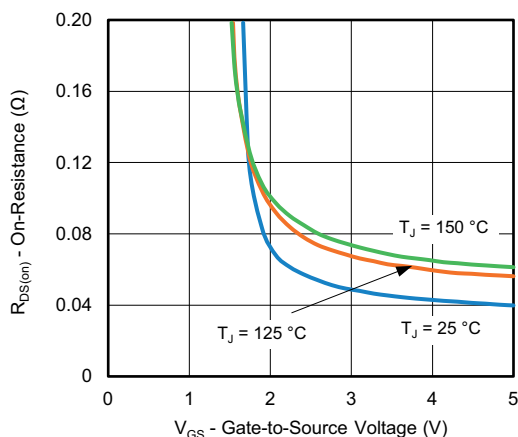
Drain Source Breakdown vs. Junction Temperature



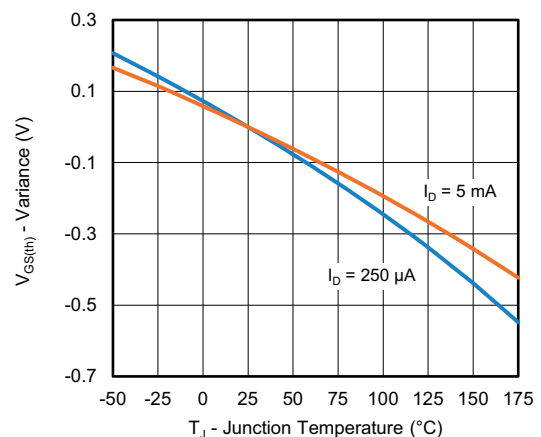
On-Resistance vs. Junction Temperature



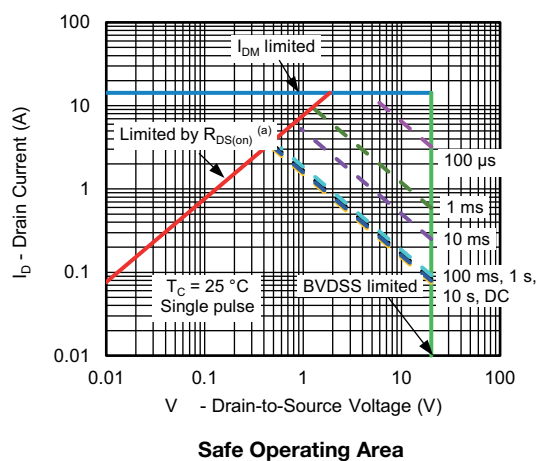
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage

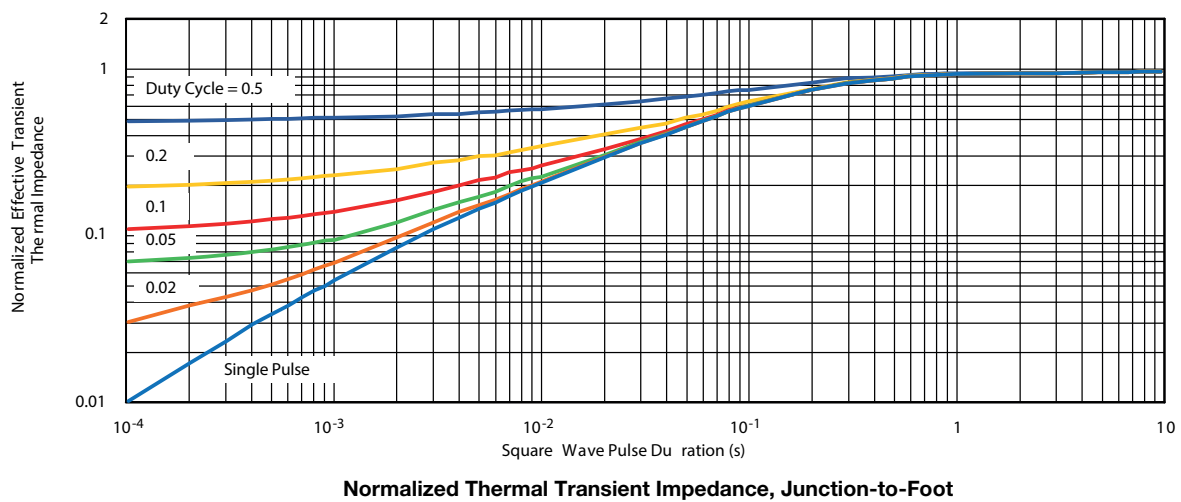
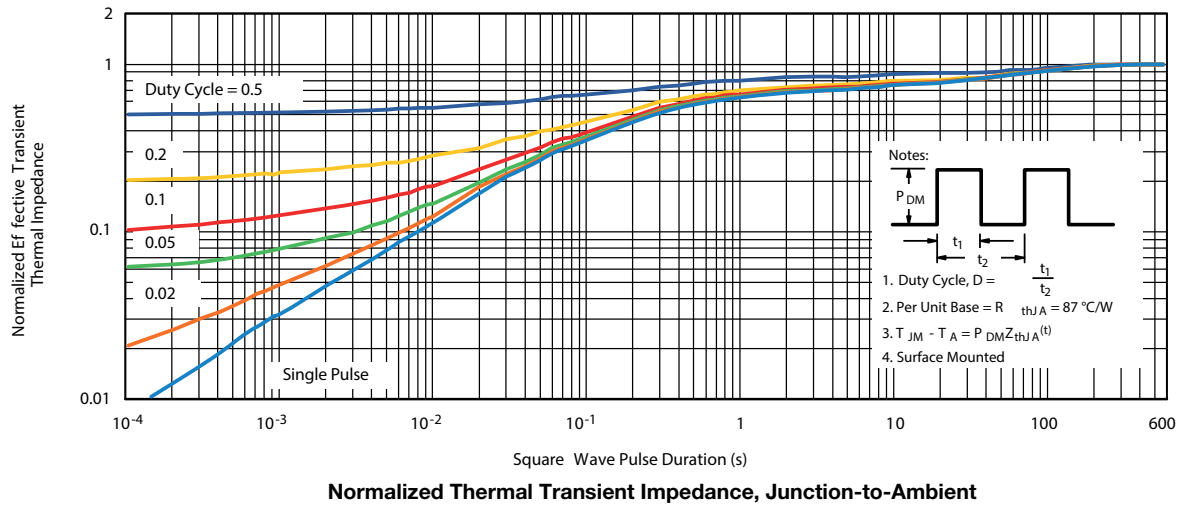


Note

- a. $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified

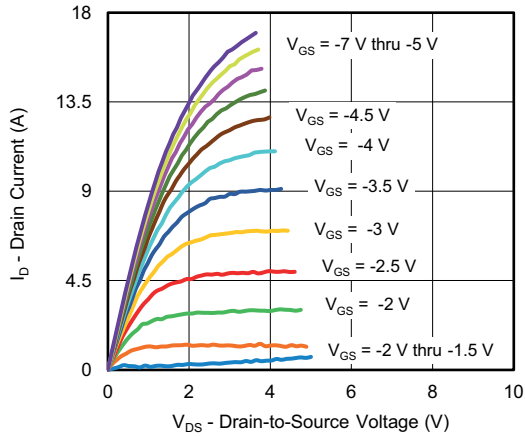


N-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)

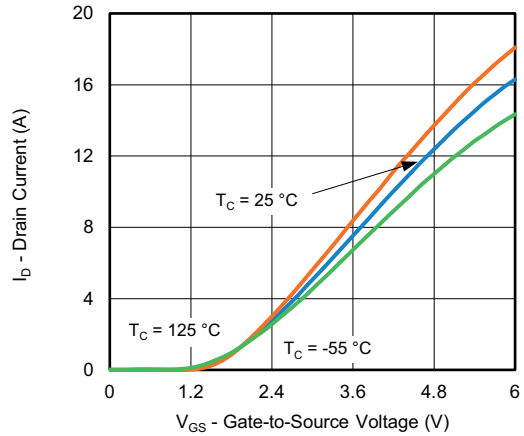




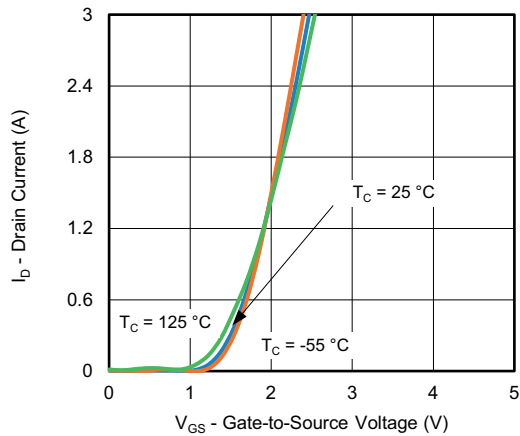
P-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)



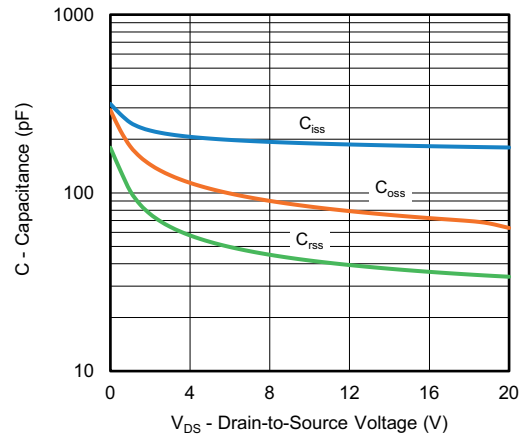
Output Characteristics



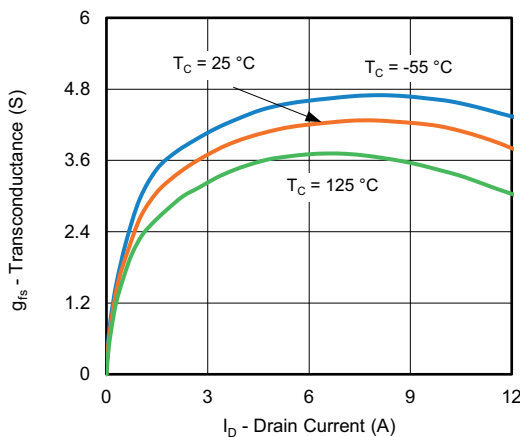
Transfer Characteristics



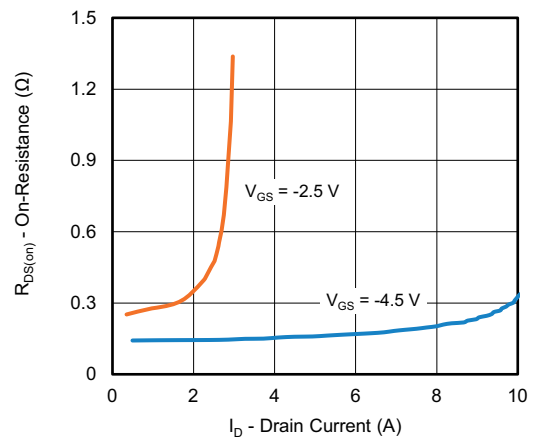
Transfer Characteristics



Capacitance



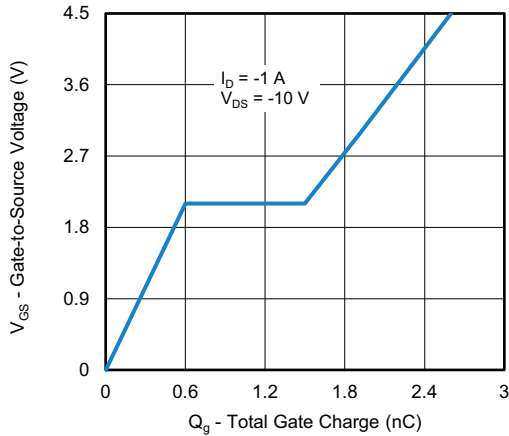
Transconductance



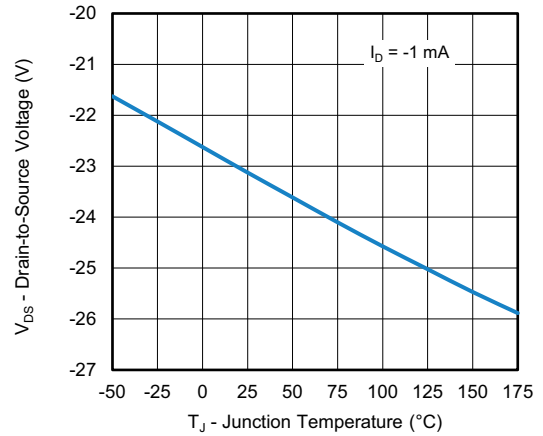
On-Resistance vs. Drain Current



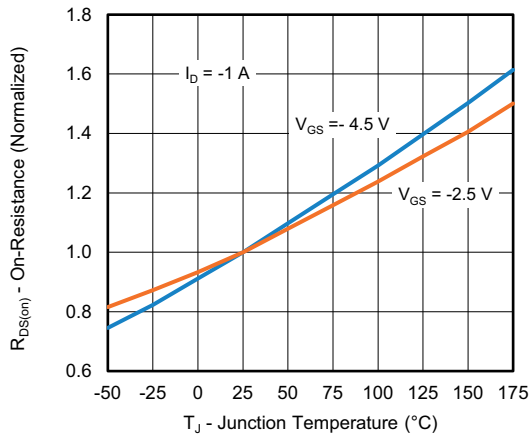
P-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)



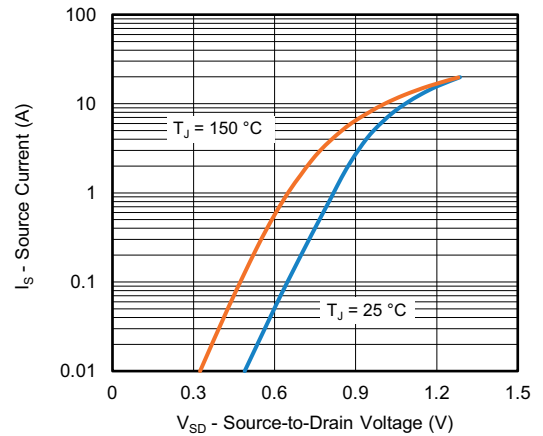
Gate Charge



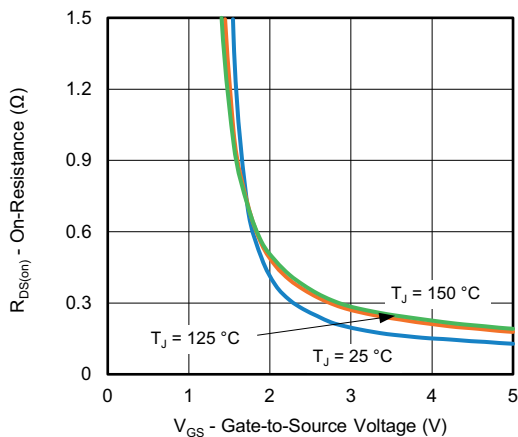
Drain Source Breakdown vs. Junction Temperature



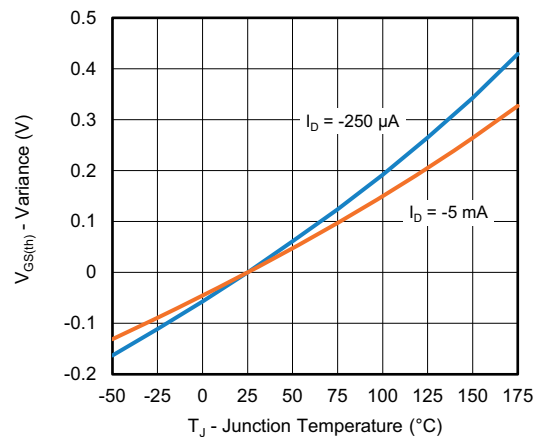
On-Resistance vs. Junction Temperature



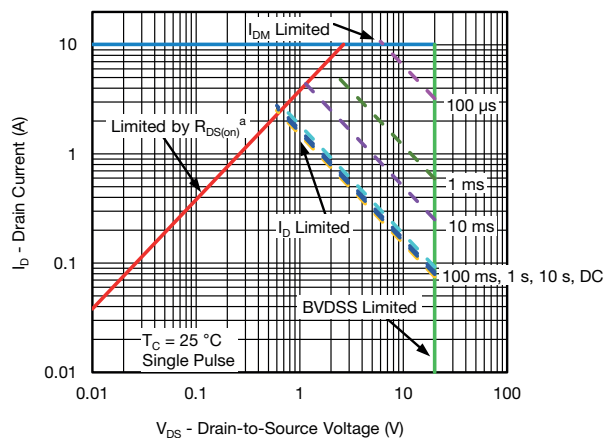
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



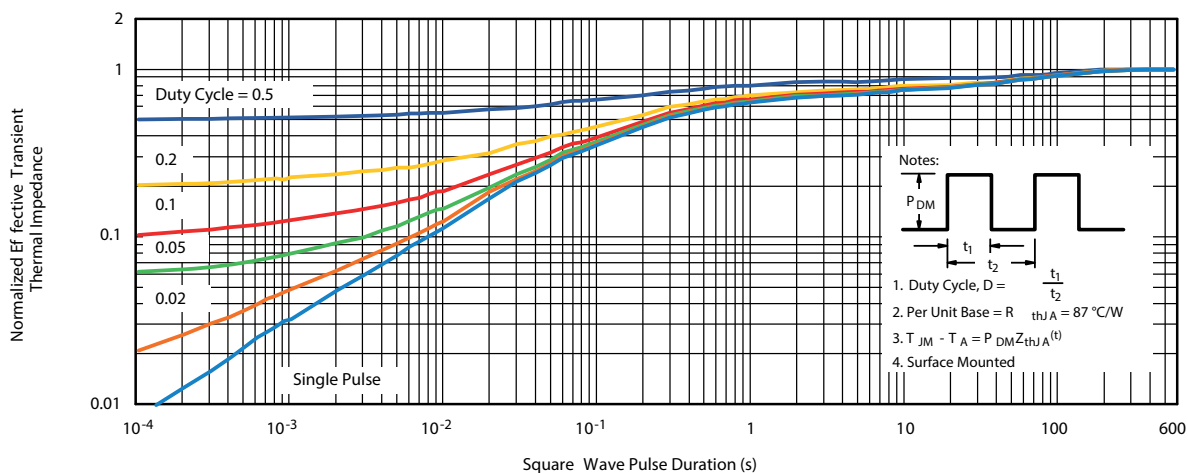
Safe Operating Area

Note

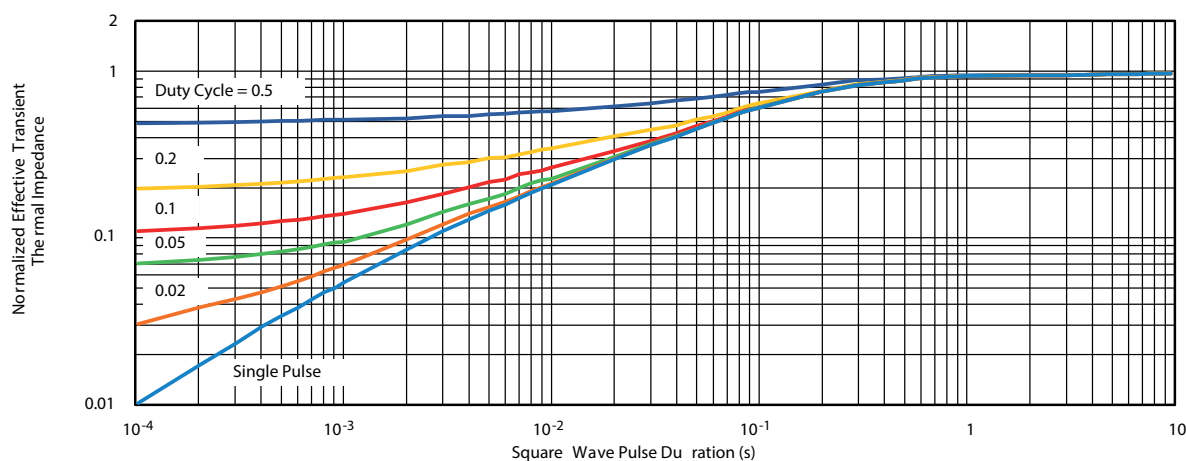
- a. $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified



P-CHANNEL TYPICAL CHARACTERISTICS (25 °C unless otherwise noted)



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Foot

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