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Product Termination Notification

Product Group: SIL/Wednesday July 8, 2026/PTN-SIL-060-2026-REV-0



Conversion to Copper (Cu) Wire – SQA401EJ and SQA401EEJ

For further information, please contact your regional Vishay office.

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Description of Change: The affected part numbers listed in this notification will be converted to a Copper bond wire material set. The new ordering code is SQA401CEJW-T1_GE3 and offers a long-term solution that is compatible with our latest package assembly methods. SQA401CEJW has identical silicon technology and silicon die design as SQA401EJ. Small changes to the data sheet AC parameters are a consequence of lot to lot variation and/or updated characterization methods (reference: SQA401CEJW Doc #66844 Rev. A). Device performance in the application will not be impacted. The SQA401CEJW utilizes the same package footprint as the SQA401EEJ. While certain electrical parameters differ slightly, the key electrical characteristics remain closely aligned, making SQA401CEJW a suitable alternative to the SQA401EEJ. There will be no change to the wafer fab location.

Reason for Change: Standardization of materials

Expected Influence on Quality/Reliability/Performance: None

Part Numbers/Series/Families Affected: SQA401EJ-T1_GE3, SQA401EEJ-T1_GE3, SQA401EJ-T5_GE3,

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Last Time Buy Date: Saturday January 9, 2027

Last Time Ship Date: Saturday July 10, 2027

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

Product Identification: SQA401CEJW-T1_GE3

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

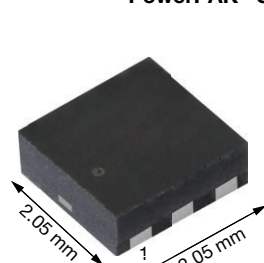
This PTN is considered approved, without further notification, unless we receive specific customer concerns before Saturday November 14, 2026 or as specified by contract.

Issued By: Lance Gurrola, automostechsupport@vishay.com

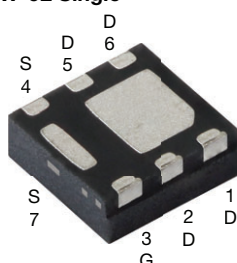


Automotive P-Channel 20 V (D-S) 175 °C MOSFET

PowerPAK® SC-70W-6L Single



Top View



Bottom View

Marking Code: QKXXXX

PRODUCT SUMMARY

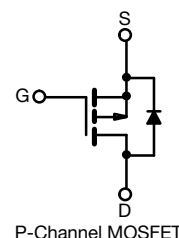
V_{DS} (V)	-20
$R_{DS(on)}$ (Ω) at $V_{GS} = -4.5$ V	0.125
$R_{DS(on)}$ (Ω) at $V_{GS} = -2.5$ V	0.219
I_D (A)	-3.75
Configuration	Single

FEATURES

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



RoHS
COMPLIANT
HALOGEN
FREE



ORDERING INFORMATION

Package	PowerPAK SC-70W-6L
Lead (Pb)-free and halogen-free	SQA401CEJW (for detailed order number please see www.vishay.com/doc?79776)

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

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-source voltage	V_{DS}	-20	V
Gate-source voltage	V_{GS}	± 12	
Continuous drain current ^a	I_D	$T_C = 25$ °C	A
		$T_C = 125$ °C	
Continuous source current (diode conduction) ^a	I_S	-3.75	
Pulsed drain current ^b	I_{DM}	-12	
Single pulse avalanche current	I_{AS}	-8	mJ
Single pulse avalanche energy	E_{AS}	3.2	
Maximum power dissipation	P_D	$T_C = 25$ °C	W
		$T_C = 125$ °C	
Operating junction and storage temperature range	T_J, T_{stg}	-55 to +175	°C
Soldering recommendations (peak temperature) ^{d, e}		260	

THERMAL RESISTANCE RATINGS

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient	R_{thJA}	90	°C/W
Junction-to-case (drain)	R_{thJF}	11	

Notes

- Package limited
- Pulse test; pulse width ≤ 300 μ s, duty cycle ≤ 2 %
- When mounted on 1" square PCB (FR4 material)
- See solder profile (www.vishay.com/doc?73257). The PowerPAK SC-70W-6L is a leadless package and features wettable flank terminals. The end of the lead terminal is plated with tin
- Rework conditions: manual soldering with a soldering iron is not recommended for leadless components
- Not intended for continuous use with positive gate voltage > 3.0 V



SPECIFICATIONS (T _C = 25 °C, unless otherwise noted)							
PARAMETER	SYMBOL	TEST CONDITIONS		MIN.	TYP.	MAX.	UNIT
Static							
Drain-source breakdown voltage	V _{DS}	V _{GS} = 0, I _D = -250 μA		-20	-	-	V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA		-0.6	-1.0	-1.3	
Gate-source leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V		-	-	± 100	nA
Zero gate voltage drain current	I _{DSS}	V _{GS} = 0 V	V _{DS} = -20 V	-	-	-1	μA
		V _{GS} = 0 V	V _{DS} = -20 V, T _J = 125 °C	-	-	-50	
		V _{GS} = 0 V	V _{DS} = -20 V, T _J = 175 °C	-	-	-150	
On-state drain current ^a	I _{D(on)}	V _{GS} = -4.5 V	V _{DS} ≥ 5 V	-8	-	-	A
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} = -4.5 V	I _D = -2.4 A	-	0.085	0.125	Ω
		V _{GS} = -4.5 V	I _D = -2.4 A, T _J = 125 °C	-	-	0.175	
		V _{GS} = -4.5 V	I _D = -2.4 A, T _J = 175 °C	-	-	0.200	
		V _{GS} = -2.5 V	I _D = -1.8 A	-	0.160	0.219	
Forward transconductance ^b	g _{fs}	V _{DS} = -10 V, I _D = -2.4 A		-	6	-	S
Dynamic ^b							
Input capacitance	C _{iss}	V _{GS} = 0 V	V _{DS} = -10 V, f = 1 MHz	-	265	330	pF
Output capacitance	C _{oss}			-	75	94	
Reverse transfer capacitance	C _{rss}			-	50	63	
Total gate charge ^c	Q _g	V _{GS} = -4.5 V	V _{DS} = -10 V, I _D = -2.4 A	-	3.5	5.5	nC
Gate-source charge ^c	Q _{gs}			-	0.9	-	
Gate-drain charge ^c	Q _{gd}			-	1.2	-	
Gate resistance	R _g	f = 1 MHz		2.8	5.6	8.4	Ω
Turn-on delay time ^c	t _{d(on)}	V _{DD} = -10 V, R _L = 5.21 Ω I _D ≅ -1.9 A, V _{GEN} = -4.5 V, R _g = 1 Ω		-	20	30	ns
Rise time ^c	t _r			-	18	27	
Turn-off delay time ^c	t _{d(off)}			-	19	28	
Fall time ^c	t _f			-	8	12	
Source-Drain Diode Ratings and Characteristics							
Pulsed current ^a	I _{SM}			-	-	-12	A
Forward voltage	V _{SD}	I _F = -2 A, V _{GS} = 0		-	-0.8	-1.2	V
Body diode reverse recovery time	t _{rr}	I _F = -1.5 A, di/dt = 100 A/μs		-	22	44	ns
Body diode reverse recovery charge	Q _{rr}			-	12	24	nC
Reverse recovery fall time	t _a			-	9	-	ns
Reverse recovery rise time	t _b			-	13	-	
Body diode peak reverse recovery current	I _{RM(REC)}			-	-1	-	A

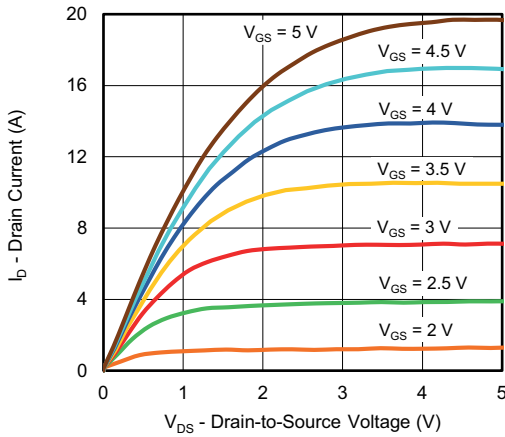
Notes

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

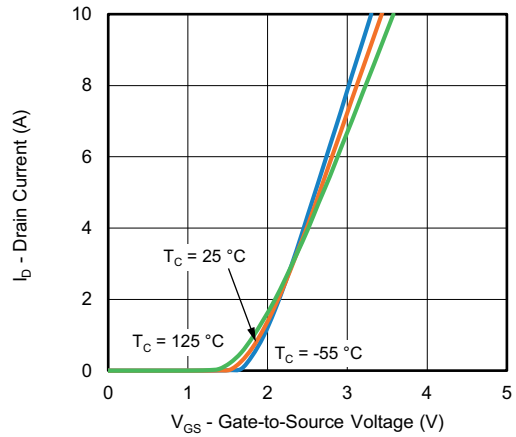
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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



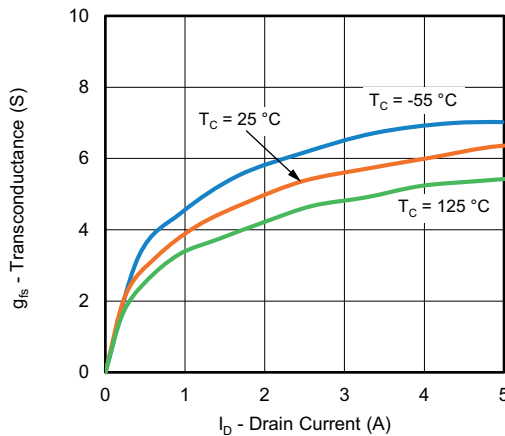
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



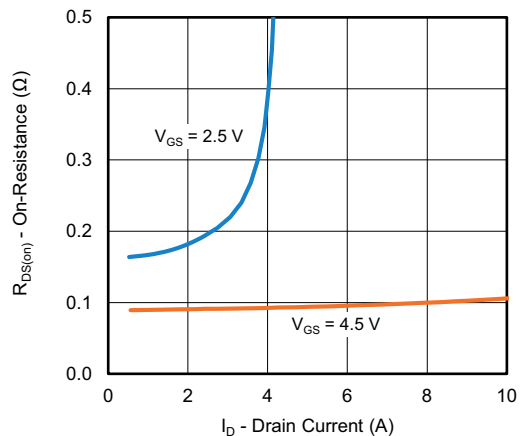
Output Characteristics



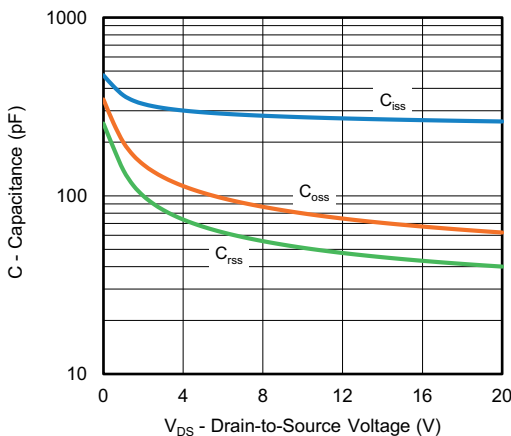
Transfer Characteristics



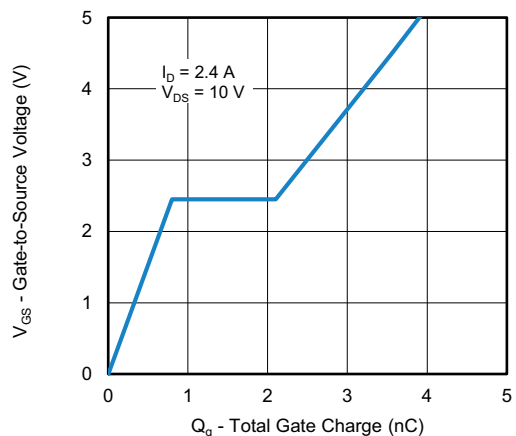
Transconductance



On-Resistance vs. Drain Current



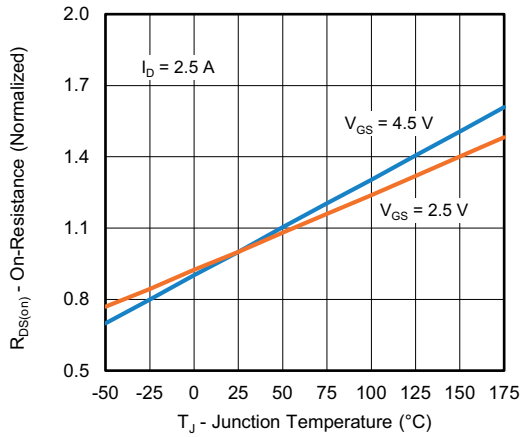
Capacitance



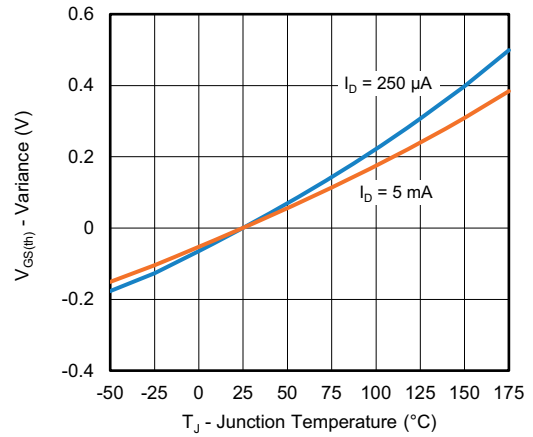
Gate Charge



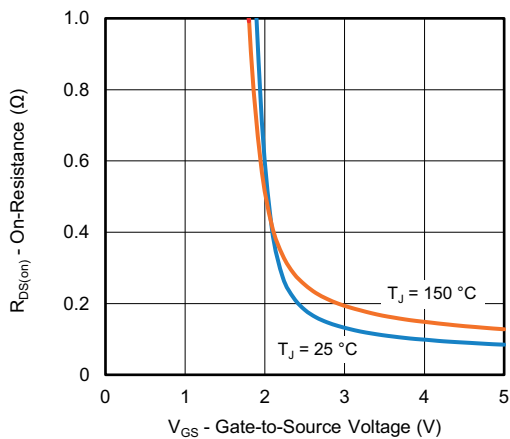
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



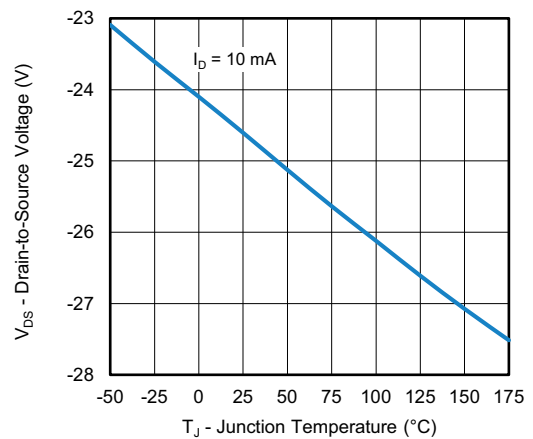
On-Resistance vs. Junction Temperature



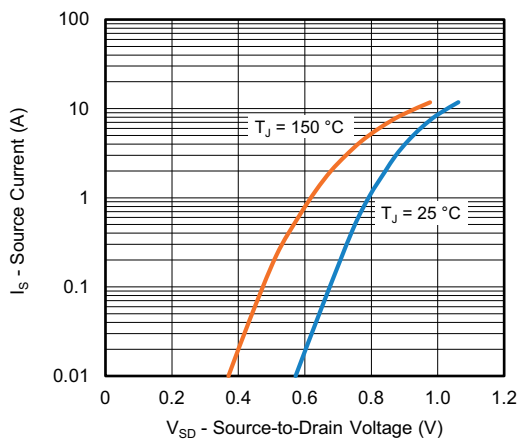
Threshold Voltage



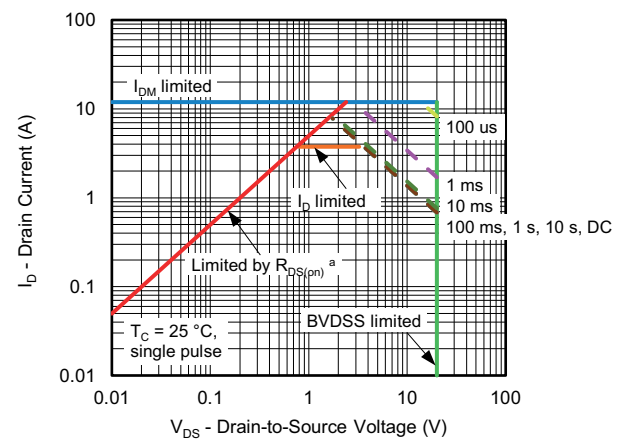
On-Resistance vs. Gate-to-Source Voltage



Drain Source Breakdown vs. Junction Temperature



Source-Drain Diode Forward Voltage



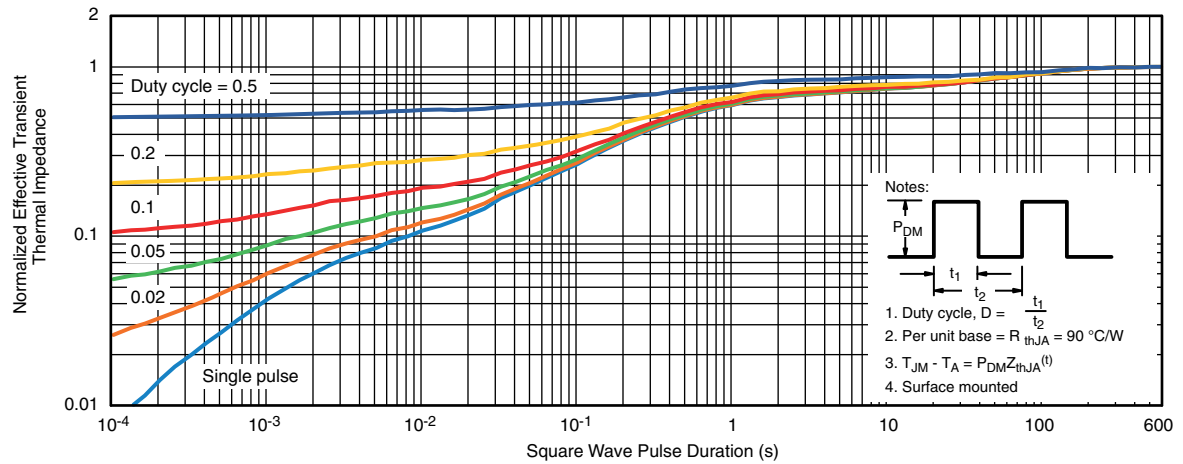
Safe Operating Area

Note

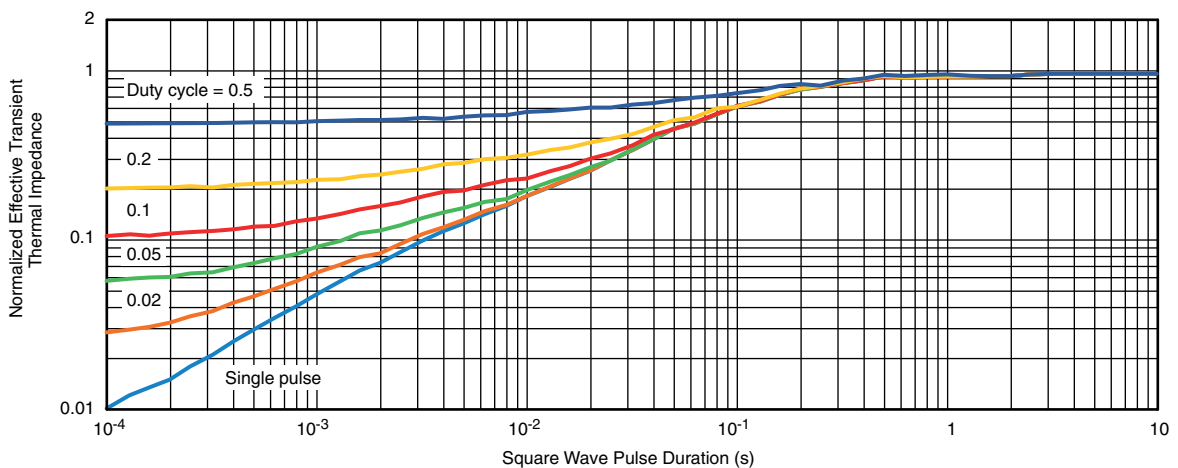
a. $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified



THERMAL RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



Normalized Thermal Transient Impedance, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Case

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