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Product Termination Notification

Product Group: SIL/Monday September 14, 2026/PTN-SIL-080-2026-REV-0



Conversion to Copper (Cu) Wire – SQA442EJ

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 to a Copper bond wire material set. The new ordering code is SQAA42CEJW-T1_GE3 and offers a long-term solution that is compatible with our latest package assembly methods. SQAA42CEJW has similar silicon technology and silicon die design as SQA442EJ. Device performance in the application will not be impacted. The SQAA42CEJW has the same 2 x 2 mm package size with an optimized land pattern. While certain electrical parameters differ slightly, the key electrical characteristics remain closely aligned, making SQAA42CEJW a suitable alternative to the SQA442EJ (reference: SQAA42CEJW Doc # 62411 Rev. A). 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: SQA442EJ-T1_GE3

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Last Time Buy Date: Sunday March 21, 2027

Last Time Ship Date: Sunday September 12, 2027

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

Product Identification: SQAA42CEJW-T1_GE3

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

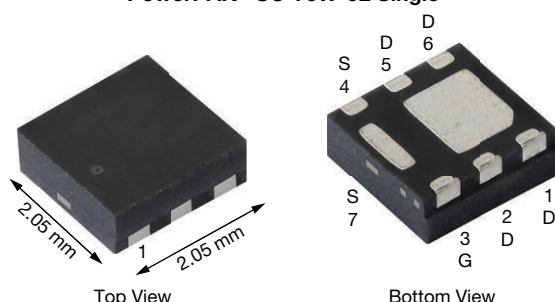
This PTN is considered approved, without further notification, unless we receive specific customer concerns before Sunday December 20, 2026 or as specified by contract.

Issued By: Lance Gurrola, automostechsupport@vishay.com



Automotive N-Channel 60 V (D-S) 175 °C MOSFET

PowerPAK® SC-70W-6L Single



Marking Code: QAExxx

PRODUCT SUMMARY

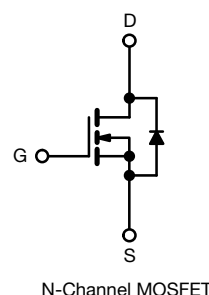
V_{DS} (V)	60
$R_{DS(on)}$ (Ω) at $V_{GS} = 10$ V	0.030
$R_{DS(on)}$ (Ω) at $V_{GS} = 4.5$ V	0.046
I_D (A)	10
Configuration	Single

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



N-Channel MOSFET

ORDERING INFORMATION

Package	PowerPAK SC-70W-6L
Lead (Pb)-free and halogen-free	SQAA42CEJW (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}	60	V
Gate-source voltage		V _{GS}	± 20	
Continuous drain current	T _C = 25 °C ^a	I _D	10	A
	T _C = 125 °C		8.8	
Continuous source current (diode conduction) ^a		I _S	10	
Pulsed drain current ^b		I _{DM}	40	
Single pulse avalanche current	L = 0.1 mH	I _{AS}	10.5	mJ
Single pulse avalanche energy		E _{AS}	5.51	
Maximum power dissipation	T _C = 25 °C	P _D	13.6	W
	T _C = 125 °C		4.5	
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_{thJC}	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



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 V, I _D = 250 μA		60	-	-	V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA		1.5	2.0	2.5	
Gate-source leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 20 V		-	-	± 100	nA
Zero gate voltage drain current	I _{DSS}	V _{GS} = 0 V	V _{DS} = 60 V	-	-	1	μA
		V _{GS} = 0 V	V _{DS} = 60 V, T _J = 125 °C	-	-	50	
		V _{GS} = 0 V	V _{DS} = 60 V, T _J = 175 °C	-	-	250	
On-state drain current ^a	I _{D(on)}	V _{GS} = 10 V	V _{DS} ≥ 5 V	10	-	-	A
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} = 10 V	I _D = 4.5 A	-	0.0234	0.030	Ω
		V _{GS} = 10 V	I _D = 4.5 A, T _J = 125 °C	-	-	0.0472	
		V _{GS} = 10 V	I _D = 4.5 A, T _J = 175 °C	-	-	0.0582	
		V _{GS} = 4.5 V	I _D = 3 A	-	0.0360	0.046	
Forward transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 4.5 A		-	16	-	S
Dynamic ^b							
Input capacitance	C _{iss}	V _{GS} = 0 V	V _{DS} = 25 V, f = 1 MHz	-	420	590	pF
Output capacitance	C _{oss}			-	160	230	
Reverse transfer capacitance	C _{rss}			-	13	22	
Total gate charge ^c	Q _g	V _{GS} = 10 V	V _{DS} = 30 V, I _D = 6 A	-	7.5	12	nC
Gate-source charge ^c	Q _{gs}			-	1.9	-	
Gate-drain charge ^c	Q _{gd}			-	1.3	-	
Gate resistance	R _g	f = 1 MHz		0.5	0.96	1.5	Ω
Turn-on delay time ^c	t _{d(on)}	V _{DD} = 30 V, R _L = 12 Ω I _D ≅ 2.5 A, V _{GEN} = 10 V, R _g = 1 Ω		-	7	12	ns
Rise time ^c	t _r			-	3	6	
Turn-off delay time ^c	t _{d(off)}			-	13	20	
Fall time ^c	t _f			-	3	6	
Source-Drain Diode Ratings and Characteristics ^b							
Pulsed current ^a	I _{SM}			-	-	40	A
Forward voltage	V _{SD}	I _F = 4.5 A, V _{GS} = 0 V		-	0.85	1.2	V
Body diode reverse recovery time	t _{rr}	I _F = 2 A, di/dt = 100 A/μs		-	16	32	ns
Body diode reverse recovery charge	Q _{rr}			-	8	16	nC
Reverse recovery fall time	t _a			-	9	-	ns
Reverse recovery rise time	t _b			-	7	-	
Body diode peak reverse recovery current	I _{RM(REC)}			-	-0.9	-	A

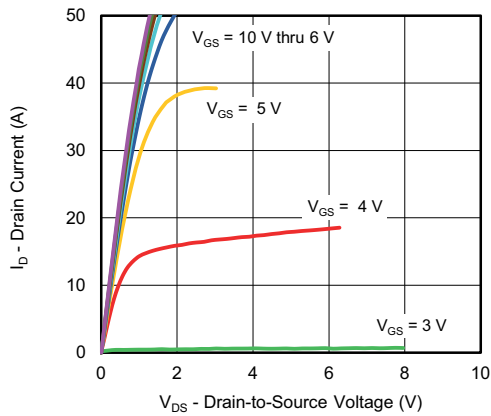
Notes

- 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

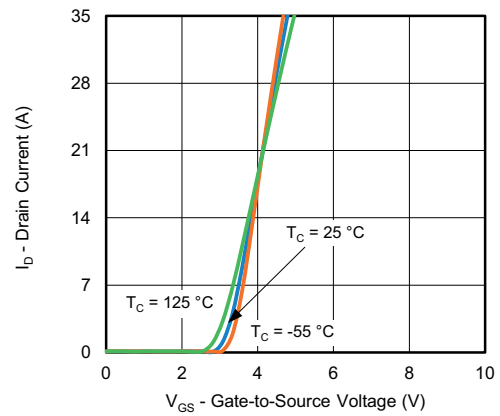
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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



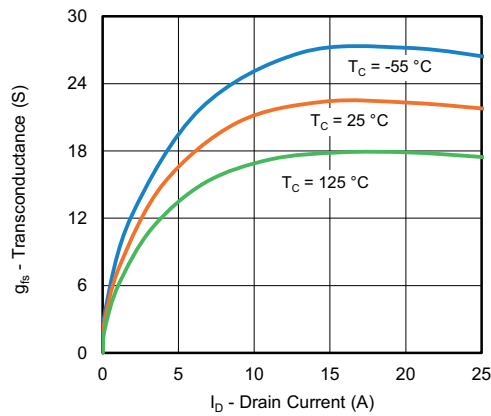
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



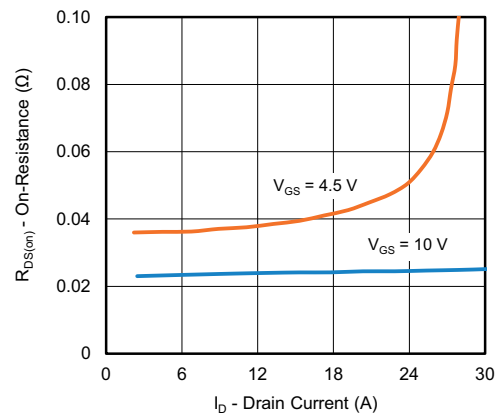
Output Characteristics



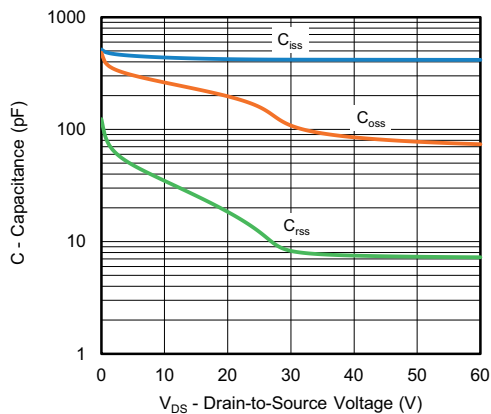
Transfer Characteristics



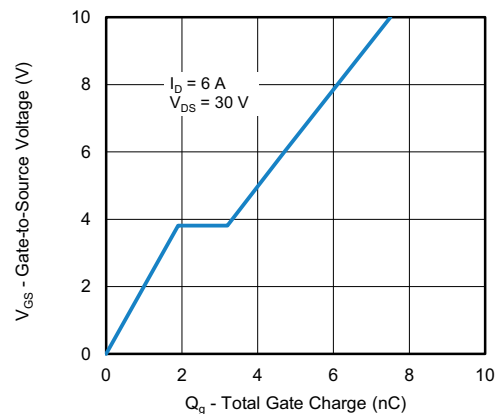
Transconductance



On-Resistance vs. Drain Current



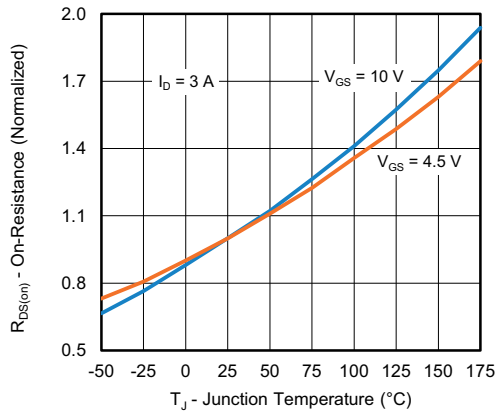
Capacitance



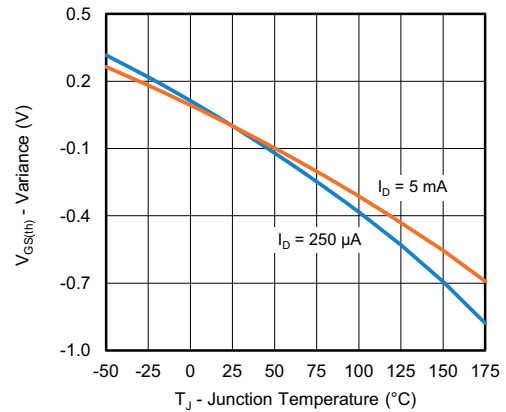
Gate Charge



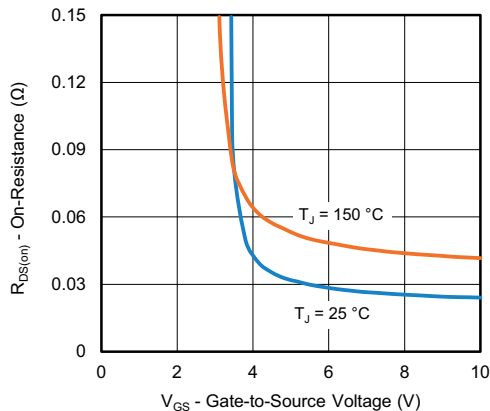
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



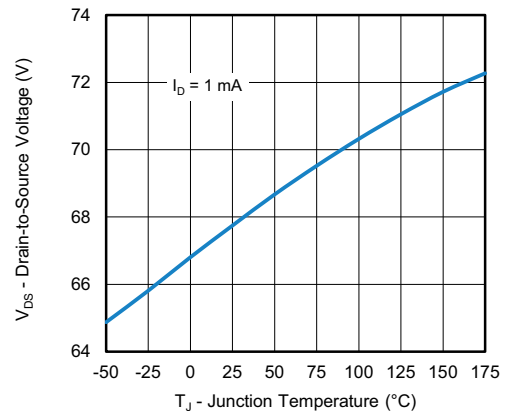
On-Resistance vs. Junction Temperature



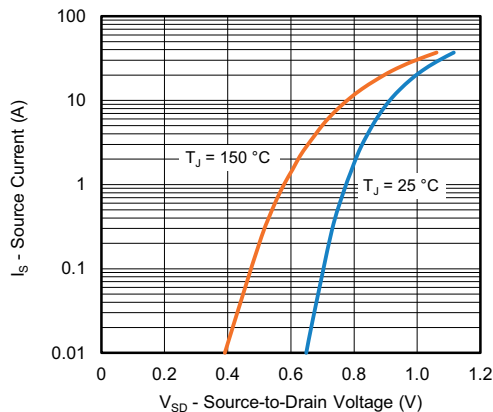
Threshold Voltage



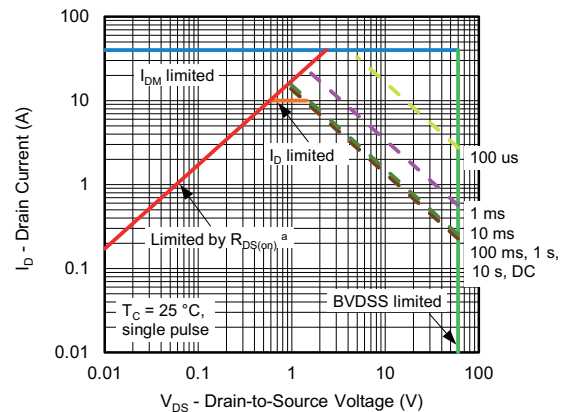
On-Resistance vs. Gate-to-Source Voltage



Drain Source Breakdown vs. Junction Temperature



Source Drain Diode Forward Voltage



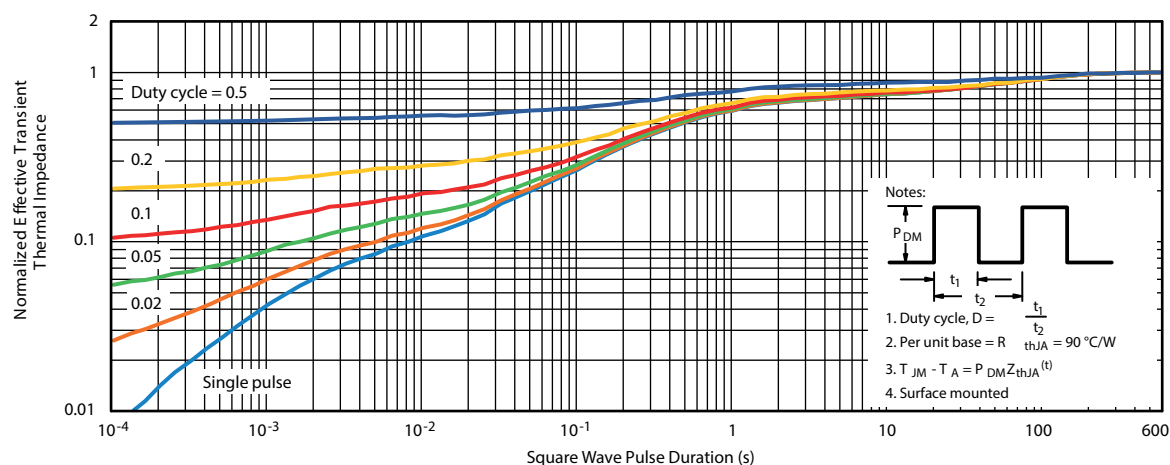
Safe Operating Area

Note

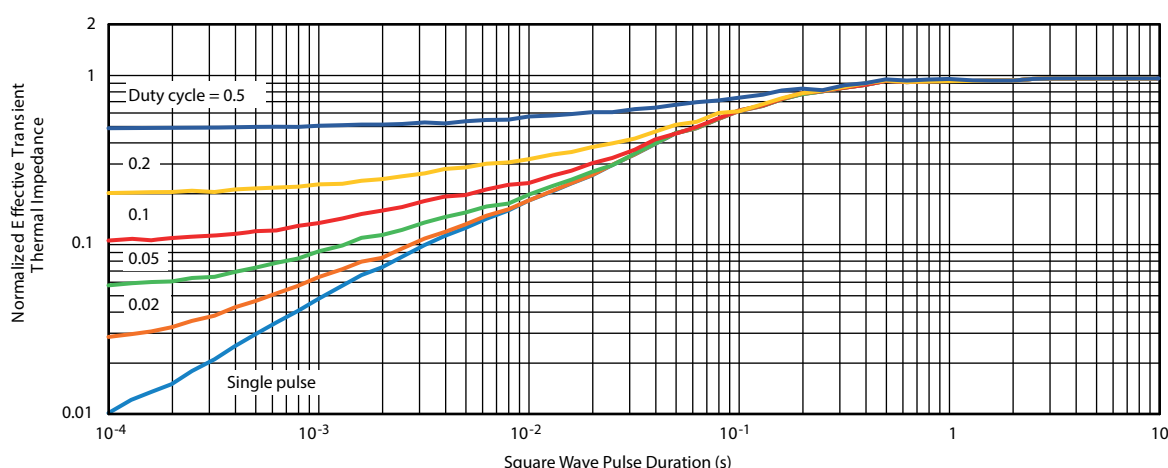
a. $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified



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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Vishay Material Code	Customer Material	Location
SQA442EJ-T1_GE3	SLNSQA442EJ-T1-GE3	Ft Worth