



Product Termination Notification

Product Group: SIL/Fri Aug 13, 2021/PTN-SIL-030-2021-REV-0

Conversion to Copper (Cu) Wire – SQ7415AENW

DESCRIPTION OF CHANGE: The affected part number listed in this notification will be converted to a Copper wire material set. The new ordering code will be SQ7415CENW-T1_GE3, which has the exact same product performance, fit and form as SQ7415AENW-T1_GE3. There will be no changes to the wafer fab or assembly locations. There will be no changes to the specification limits at final test or to the associated datasheet specifications with the exception of Rg where the maximum value has been tightened from 9 Ohms to 8.3 Ohms (reference: SQ7415AENW Doc #63050, Rev.B) - see included datasheet comparison for details.

REASON FOR CHANGE: Standardization of materials

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: None

PART NUMBERS/SERIES/FAMILIES AFFECTED: SQ7415AENW-T1_GE3

VISHAY BRAND(s): Vishay Siliconix

TIME SCHEDULE:

Last Time Buy Date: Sun Feb 27, 2022

Last Time Ship Date: Mon Aug 29, 2022

SAMPLE AVAILABILITY: Qualified samples of replacement product are available immediately

PRODUCT IDENTIFICATION: SQ7415CENW-T1_GE3

QUALIFICATION DATA: AEC Q101 qualification data of replacement product is available. Qualification PPAP is available now.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before Thu Jan 27, 2022 or as specified by contract.

ISSUED BY: Lance Gurrola, business-americas@vishay.com

For further information, please contact your regional Vishay office.

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ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENT

		Affected Part Number AEC Q101 Qualified Package Type Process Technology 100% Rg & UIS Tested Datasheet Rev		S27415AENW Yes PowerPAK 1212-BW 90M cells/in ² Yes B				Replacement Part Number AEC Q101 Qualified Package Type Process Technology 100% Rg and UIS Tested Datasheet Rev		SQ7415CENW Yes PowerPAK 1212-BW 90M cells/in ² Yes A						
Absolute Maximum Ratings		Symbol	Test Conditions	Limit	Units		Symbol		Test Conditions	Limit	Units		Type of Change		Risk	
Drain-Source Voltage		VDS		-60	V		VDS			-60	V		None		None	
Gate-Source Voltage		VGS		±20	V		VGS			±20	V		None		None	
Continuous Drain Current		ID	TC = 25°C	-16	A		ID		TC = 25°C	-16	A		None		None	
Continuous Drain Current		ID	TC = 125°C	-11	A		ID		TC = 125°C	-11.5	A		None		None	
Continuous Source Current (Diode Conduction)		IS		-16	A		IS			-16	A		None		None	
Pulsed Drain Current		IDM		-64	A		IDM			-64	A		None		None	
Single Pulse Avalanche Current		IAS	L = 0.1mH	-23	A		IAS		L = 0.1mH	-23	A		None		None	
Single Pulse Avalanche Energy		EAS		26	mJ		EAS			26	mJ		None		None	
Max Power Dissipation		PD	TC = 25°C	53	W		PD		TC = 25°C	53	W		None		None	
Max Power Dissipation		PD	TC = 125°C	17	W		PD		TC = 125°C	17	W		None		None	
Operating Junction		TJ		-55 to +175	°C		TJ			-55 to +175	°C		None		None	
Thermal Resistance J-A		RθJA	PCB Mount	81	°C/W		RθJA		PCB Mount	81	°C/W		None		None	
Thermal Resistance J-C		RθJC		2.8	°C/W		RθJC			2.8	°C/W		None		None	
Specifications TJ=25°C unless otherwise noted		Test Conditions				MIN	TYP	MAX	Units				Type of Change		Risk	
Drain-Source Breakdown Voltage		VDS	VGS=0V, ID=250μA		-60			V					None		None	
Gate-Source Threshold Voltage		VGS(th)	VDS=0V, ID=250μA		-1.5	-2	-2.5	V					None		None	
Gate-Source Leakage		IGSS	VDS=0V, VGS=±20V				±100	nA					None		None	
Zero Voltage Drain Current		IDSS	VGS=0V, VDS=40V				1	μA					None		None	
			VGS=0V, VDS=40V, TJ=125°C				-50	μA					None		None	
On-State Drain Current		ID(ON)	VGS=0V, VDS=40V, TJ=175°C				-150	μA					None		None	
			VGS=10V, VDS=5V		-15			A					None		None	
Drain-Source On-State Resistance		RDS(on)	VGS=10V, ID=5.7A		0.050	0.065	0						None		None	
			VGS=10V, ID=5.7A, TJ=125°C		0.112	0							None		None	
			VGS=10V, ID=5.7A, TJ=175°C		0.138	0							None		None	
			VGS=4.5V, ID=4.4A		0.070	0.090	0						None		None	
Forward Transconductance		gfs	VDS=15V, ID=5.7A			13		S					None		None	
Input Capacitance		Ciss				1108	1385						Lower Typical		None	
Output Capacitance		Coss	VGS=0V, VDS=25V, f=1MHz			132	165	pF					None		None	
Reverse Transfer Capacitance		Crss				84	105						Lower Typical		Very low. Switching speeds are not impacted	
Total Gate Charge		Qg	VGS=10V, VDS=30V, ID=5.7A			25.5	38						None		None	
Gate-Source Charge		Qgs				3.6		nC					Lower		None, Qg is unchanged	
Gate-Drain Charge		Qgd				6.7							Higher		None, Qg is unchanged	
Gate Resistance		Rg	f=1MHz		3	6	9	Ω					Lower		None	
Turn-On Delay Time		td(on)				9	14						None		None	
Rise Time		tr				9	14						Lower		None	
Turn-Off Delay Time		td(off)				37	56	ns					Higher		None	
Fall Time		tf				8	12						None		None	
Pulsed Source-Drain Current		ISM				-64		A					None		None	
Forward Voltage		VSD	If=6A VGS=0V		-0.85	-1.2	V						None		None	
Body diode reverse recovery time		trr						ns								
Body diode reverse recovery charge		Qrr						nC								
Reverse recovery fall time		ta	If=6.5A, dI/dt=100A/μs					ns								
Reverse recovery rise time		tb						ns								
Body diode peak reverse recovery current		IRRM(REC)						A								

		Affected Part Number AEC Q101 Qualified Package Type Process Technology 100% Rg and UIS Tested Datasheet Rev		S27415AENW Yes PowerPAK 1212-BW 90M cells/in ² Yes B				Replacement Part Number AEC Q101 Qualified Package Type Process Technology 100% Rg and UIS Tested Datasheet Rev		SQ7415CENW Yes PowerPAK 1212-BW 90M cells/in ² Yes A						
Absolute Maximum Ratings		Symbol	Test Conditions	Limit	Units		Symbol		Test Conditions	Limit	Units		Type of Change		Risk	
Drain-Source Voltage		VDS		-60	V		VDS			-60	V		None		None	
Gate-Source Voltage		VGS		±20	V		VGS			±20	V		None		None	
Continuous Drain Current		ID	TC = 25°C	-16	A		ID		TC = 25°C	-16	A		None		None	
Continuous Drain Current		ID	TC = 125°C	-11	A		ID		TC = 125°C	-11.5	A		None		None	
Continuous Source Current (Diode Conduction)		IS		-16	A		IS			-16	A		None		None	
Pulsed Drain Current		IDM		-64	A		IDM			-64	A		None		None	
Single Pulse Avalanche Current		IAS	L = 0.1mH	-23	A		IAS		L = 0.1mH	-23	A		None		None	
Single Pulse Avalanche Energy		EAS		26	mJ		EAS			26	mJ		None		None	
Max Power Dissipation		PD	TC = 25°C	53	W		PD		TC = 25°C	53	W		None		None	
Max Power Dissipation		PD	TC = 125°C	17	W		PD		TC = 125°C	17	W		None		None	
Operating Junction		TJ		-55 to +175	°C		TJ			-55 to +175	°C		None		None	
Thermal Resistance J-A		RθJA	PCB Mount	81	°C/W		RθJA		PCB Mount	81	°C/W		None		None	
Thermal Resistance J-C		RθJC		2.8	°C/W		RθJC			2.8	°C/W		None		None	
Specifications TJ=25°C unless otherwise noted		Test Conditions				MIN	TYP	MAX	Units				Type of Change		Risk	
Drain-Source Breakdown Voltage		VDS	VGS=0V, ID=250μA		-60			V					None		None	
Gate-Source Threshold Voltage		VGS(th)	VDS=0V, ID=250μA		-1.5	-2	-2.5	V					None		None	
Gate-Source Leakage		IGSS	VDS=0V, VGS=±20V				±100	nA					None		None	
Zero Voltage Drain Current		IDSS	VGS=0V, VDS=40V				1	μA					None		None	
			VGS=0V, VDS=40V, TJ=125°C				-50	μA					None		None	
On-State Drain Current		ID(ON)	VGS=0V, VDS=40V, TJ=175°C				-150	μA					None		None	
			VGS=10V, VDS=5V		-15			A					None		None	
Drain-Source On-State Resistance		RDS(on)	VGS=10V, ID=5.7A		0.050	0.065	0						None		None	
			VGS=10V, ID=5.7A, TJ=125°C		0.112	0							None		None	
			VGS=10V, ID=5.7A, TJ=175°C		0.138	0							None		None	
			VGS=4.5V, ID=4.4A		0.070	0.090	0						None		None	
Forward Transconductance		gfs	VDS=15V, ID=5.7A			13		S					None		None	
Input Capacitance		Ciss				1083	1385						Lower Typical		None	
Output Capacitance		Coss	VGS=0V, VDS=25V, f=1MHz			132	165	pF					None		None	
Reverse Transfer Capacitance		Crss				80	105						Lower Typical		Very low. Switching speeds are not impacted	
Total Gate Charge		Qg	VGS=10V, VDS=30V, ID=5.7A			25.5	38						None		None	
Gate-Source Charge		Qgs				4.3		nC					Lower		None, Qg is unchanged	
Gate-Drain Charge		Qgd				6.4							Higher		None, Qg is unchanged	
Gate Resistance		Rg	f=1MHz		3	5.6	8.3	Ω					Lower		None	
Turn-On Delay Time		td(on)				9	14						None		None	
Rise Time		tr				5	10						Lower		None	
Turn-Off Delay Time		td(off)				39	60	ns					Higher		None	
Fall Time		tf				8	12						None		None	
Pulsed Source-Drain Current		ISM				-64		A					None		None	
Forward Voltage		VSD	If=6A VGS=0V		-0.85	-1.2	V						None		None	
Body diode reverse recovery time		trr						ns								
Body diode reverse recovery charge		Qrr						nC								
Reverse recovery fall time		ta	If=6.5A, dI/dt=100A/μs					ns								
Reverse recovery rise time		tb						ns								
Body diode peak reverse recovery current		IRRM(REC)						A								