



Conversion to Copper (Cu) Wire – SQ4946AEY

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 SQ4946CEY-T1_GE3, which has the exact same product performance, fit and form as SQ4946AEY-T1_GE3. There will be no change to the wafer fab or assembly location. There will be no changes to the parameters on the datasheet (reference: SQ4946CEY Doc #77342, 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: SQ4946AEY-T1_GE3

VISHAY BRAND(s): Vishay Siliconix

TIME SCHEDULE:

Last Time Buy Date: Wed Jun 30, 2021

Last Time Ship Date: Thu Dec 30, 2021

SAMPLE AVAILABILITY: Qualified samples of replacement product are available immediately

PRODUCT IDENTIFICATION: SQ4946CEY-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 Mon May 31, 2021 or as specified by contract.

ISSUED BY: Lance Gurrola, Lance.Gurrola@vishay.com

For further information, please contact your regional Vishay office.

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Affected Part Number SQ4946AEY					Replacement Part Number SQ4946CEY								
AEC Q101 Qualified Yes					AEC Q101 Qualified Yes								
Package Type SO-8					Package Type SO-8								
Process Technology 45M cells/in ²					Process Technology 45M cells/in ²								
100% Rg & UIS Tested Yes					100% Rg & UIS Tested Yes								
Datasheet Rev F					Datasheet Rev B								
Absolute Maximum Ratings					Absolute Maximum Ratings								
Symbol	Test Conditions	Limit	Units	Symbol	Test Conditions	Limit	Units	Type of Change	Risk				
VDS		60	V	VDS		60	V	None	None				
VGS		±20	V	VGS		±20	V	None	None				
ID	TC = 25°C	7	A	ID	TC = 25°C	7	A	None	None				
ID	TC = 125°C	4	A	ID	TC = 125°C	4	A	None	None				
IS		3.6	A	IS		3.6	A	None	None				
IDM		28	A	IDM		28	A	None	None				
IAS	L = 0.1mH	18	A	IAS	L = 0.1mH	18	A	None	None				
EAS		16.2	mJ	EAS		16.2	mJ	None	None				
PD	TC = 25°C	4	W	PD	TC = 25°C	4	W	None	None				
PD	TC = 125°C	1.3	W	PD	TC = 125°C	1.3	W	None	None				
TJ		-55 to +175	°C	TJ		-55 to +175	°C	None	None				
RthJA	PCB Mount	110	°C/W	RthJA	PCB Mount	110	°C/W	None	None				
RthJC		34	°C/W	RthJC		34	°C/W	None	None				
Specifications Tj=25°C unless otherwise noted					Specifications Tj=25°C unless otherwise noted								
Symbol	Test Conditions	MIN	TYP	MAX	Units	Symbol	Test Conditions	MIN	TYP	MAX	Units	Type of Change	Risk
VDS	VGS=0V, ID=250uA	60			V	VDS	VGS=0V, ID=250uA	60			V	None	None
VGS(th)	VDS=VGS, ID=250uA	1.5	2	2.5	V	VGS(th)	VDS=VGS, ID=250uA	1.5	2	2.5	V	None	None
IGSS	VDS=0V, VGS=±20V			±100	nA	IGSS	VDS=0V, VGS=±20V			±100	nA	None	None
IDSS	VGS=0V, VDS=60V, Tj=125°C			50	uA	IDSS	VGS=0V, VDS=60V, Tj=125°C			50	uA	None	None
IDSS	VGS=0V, VDS=60V, Tj=125°C			150	uA	IDSS	VGS=0V, VDS=60V, Tj=125°C			150	uA	None	None
ID(ON)	VGS=10V, VDS=5V	20			A	ID(ON)	VGS=10V, VDS=5V	20			A	None	None
RDSON	VGS=10V, ID=4.5A, Tj=125°C		0.033	0.040	Ω	RDSON	VGS=10V, ID=4.5A, Tj=125°C		0.033	0.040	Ω	None	None
RDSON	VGS=10V, ID=4.5A, Tj=125°C			0.066	Ω	RDSON	VGS=10V, ID=4.5A, Tj=125°C			0.066	Ω	None	None
RDSON	VGS=10V, ID=4.5A, Tj=125°C			0.081	Ω	RDSON	VGS=10V, ID=4.5A, Tj=125°C			0.081	Ω	None	None
RDSON	VGS=4.5V, ID=4A		0.045	0.055	Ω	RDSON	VGS=4.5V, ID=4A		0.045	0.055	Ω	None	None
gfs	VDS=15V, ID=4.5A		15		S	gfs	VDS=15V, ID=4.5A		15		S	None	None
Ciss			600	750		Ciss			600	750		None	None
Coss	VGS=0V, VDS=25V, f=1MHz		110	140	pF	Coss	VGS=0V, VDS=25V, f=1MHz		110	140	pF	None	None
Ciss			50	62		Ciss			50	62		None	None
Qg			11.7	18		Qg			11.7	18		None	None
Qgs	VGS=10V, VDS=30V, ID=5.3A		1.8	2.7	nC	Qgs	VGS=10V, VDS=30V, ID=5.3A		1.8	2.7	nC	None	None
Qgd			2.8	4.2		Qgd			2.8	4.2		None	None
Rg	f=1MHz		1.3		Ω	Rg	f=1MHz		1.3		Ω	None	None
tr			3.3	5		tr			3.3	5		None	None
td(on)			7	11		td(on)			7	11		None	None
tr			22.4	33.5	ns	tr			22.4	33.5	ns	None	None
td(off)			2.1	3.2		td(off)			2.1	3.2		None	None
ISM			28		A	ISM			28		A	None	None
VSD	If=2A VGS=0V		0.75	1.1	V	VSD	If=2A VGS=0V		0.75	1.1	V	None	None
trr				20	ns	trr			20	40	ns	Improvement	None
Qrr	If=4.4A, di/dt=100A/us			17	nC	Qrr	If=4.4A, di/dt=100A/us		17	34	nC	Improvement	None
ta				15	ns	ta			15		ns	Improvement	None
tb				5	ns	tb			5		ns	Improvement	None
trr					A	trr			-1.91		A	Improvement	None