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Product Termination Notification

Product Group: SIL/Friday April 24, 2026/PTN-SIL-025-2026-REV-0



Conversion to Copper (Cu) Wire – SQ4940AEY

For further information, please contact your regional Vishay office.

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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 SQ4940CEY-T1_GE3 which has identical silicon technology and silicon die design as SQ4940AEY. Small changes to the data sheet AC parameters are a consequence of lot to lot variation and/or updated characterization methods (reference: SQ4940CEY Doc # 62020 Rev. B). Device performance in the application will not be impacted. 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: SQ4940AEY-T1_GE3, SQ4940AEY-T1_BE3,

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Last Time Buy Date: Friday October 30, 2026

Last Time Ship Date: Friday April 30, 2027

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

Product Identification: SQ4940CEY-T1_GE3, SQ4940CEY-T1_BE3

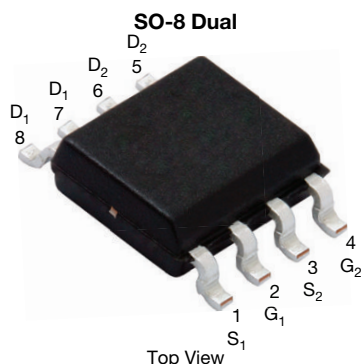
Qualification Data: AEC Q101 qualification data of replacement product is available. Qualification PPAP is available on request.

This PTN is considered approved, without further notification, unless we receive specific customer concerns before Monday October 26, 2026 or as specified by contract.

Issued By: Lance Gurrola, automostechsupport@vishay.com



Automotive Dual N-Channel 40 V (D-S) 175 °C MOSFET

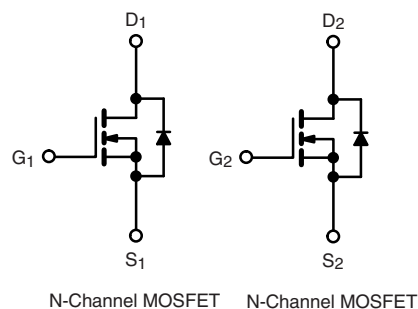


FEATURES

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



RoHS
COMPLIANT
HALOGEN
FREE



PRODUCT SUMMARY

V_{DS} (V)	40
$R_{DS(on)}$ (Ω) at $V_{GS} = 10$ V	0.024
$R_{DS(on)}$ (Ω) at $V_{GS} = 4.5$ V	0.029
I_D (A)	8
Configuration	Dual

ORDERING INFORMATION

Package	SO-8
Lead (Pb)-free and halogen-free	SQ4940CEY (for detailed order number please see www.vishay.com/doc?79771)

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

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-source voltage	V_{DS}	40	V
Gate-source voltage	V_{GS}	± 20	
Continuous drain current	I_D	8	A
		5.3	
Continuous source current (diode conduction)	I_S	3.6	
Pulsed drain current ^b	I_{DM}	32	
Single pulse avalanche current	I_{AS}	17	
Single pulse avalanche energy	E_{AS}	15	mJ
Maximum power dissipation	P_D	4	W
		1.3	
Operating junction and storage temperature range	T_J, T_{stg}	-55 to +175	°C

THERMAL RESISTANCE RATINGS

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient	R_{thJA}	112	°C/W
Junction-to-foot (drain)	R_{thJF}	38	

Notes

- a. Package limited
b. Pulse test; pulse width ≤ 300 μ s, duty cycle ≤ 2 %
c. When mounted on 1" square PCB (FR-4 material)



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		40	-	-	V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA		1.5	2	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} = 40 V	-	-	1	μA
		V _{GS} = 0 V	V _{DS} = 40 V, T _J = 55 °C	-	-	50	
		V _{GS} = 0 V	V _{DS} = 40 V, T _J = 175 °C	-	-	150	
On-state drain current ^a	I _{D(on)}	V _{GS} = 10 V	V _{DS} ≥ 5 V	30	-	-	A
Drain-source on-state resistance ^a	R _{DS(on)}	V _{GS} = 10 V	I _D = 5.3 A	-	0.020	0.024	Ω
		V _{GS} = 10 V	I _D = 5.3 A, T _J = 125 °C	-	-	0.036	
		V _{GS} = 10 V	I _D = 5.3 A, T _J = 175 °C	-	-	0.043	
		V _{GS} = 4.5 V	I _D = 4.9 A	-	0.024	0.029	
Forward transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 5.3 A		-	26	-	S
Dynamic ^b							
Input capacitance	C _{iss}	V _{GS} = 0 V	V _{DS} = 20 V, f = 1 MHz	-	645	741	pF
Output capacitance	C _{oss}			-	103	129	
Reverse transfer capacitance	C _{rss}			-	37	55	
Total gate charge ^c	Q _g	V _{GS} = 10 V	V _{DS} = 20 V, I _D = 5.7 A	-	11.2	17	nC
Gate-source charge ^c	Q _{gs}			-	2.3	-	
Gate-drain charge ^c	Q _{gd}			-	1.6	-	
Gate resistance	R _g	f = 1 MHz		0.5	1.18	2	Ω
Turn-on delay time ^c	t _{d(on)}	V _{DD} = 20 V, R _L = 3.5 Ω I _D ≅ 5.7 A, V _{GEN} = 10 V, R _g = 1 Ω		-	8	12	ns
Rise time ^c	t _r			-	4	10	
Turn-off delay time ^c	t _{d(off)}			-	15	24	
Fall time ^c	t _f			-	4	10	
Source-Drain Diode Ratings and Characteristics ^b							
Pulsed current ^a	I _{SM}			-	-	32	A
Forward voltage	V _{SD}	I _F = 3.6 A, V _{GS} = 0 V		-	0.79	1.1	V
Body diode reverse recovery time	t _{rr}	I _F = 1.8 A, di/dt = 100 A/μs		-	13	26	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			-	4	-	
Body diode peak reverse recovery current	I _{RM(REC)}			-	-1.3	-	A

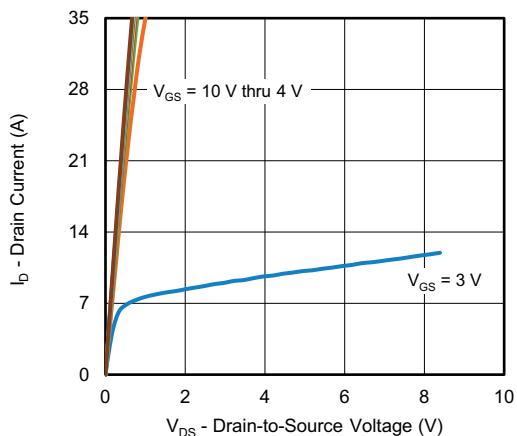
Notes

- a. 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

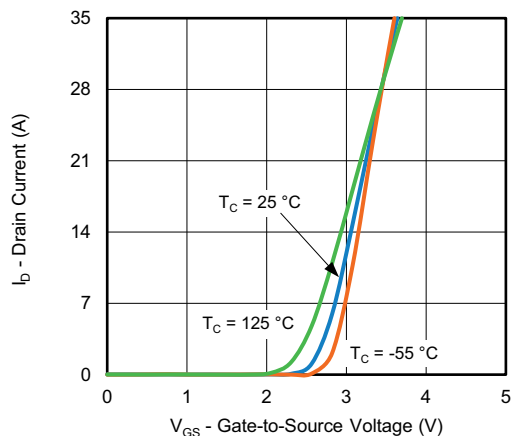
Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure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



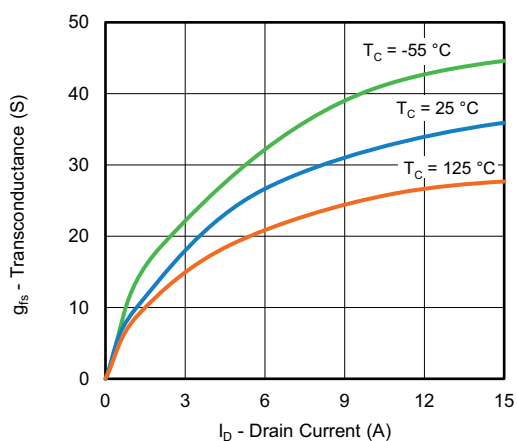
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



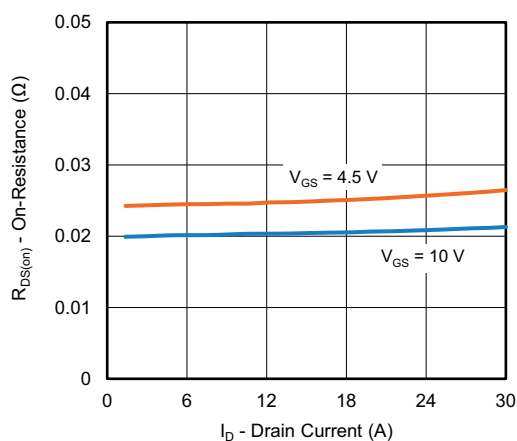
Output Characteristics



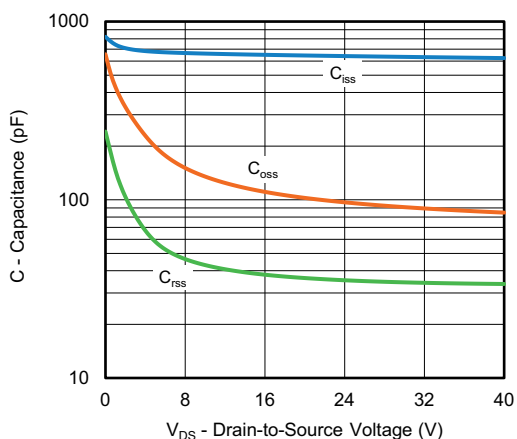
Transfer Characteristics



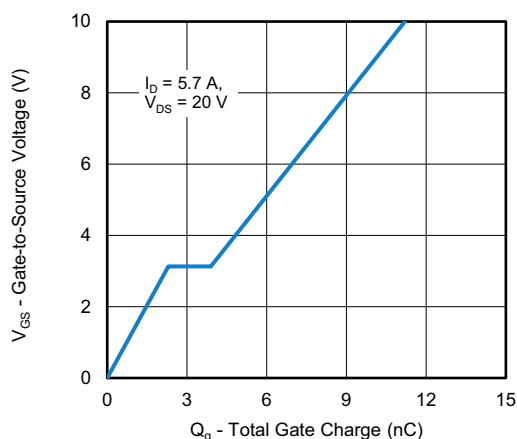
Transconductance



On-Resistance vs. Drain Current



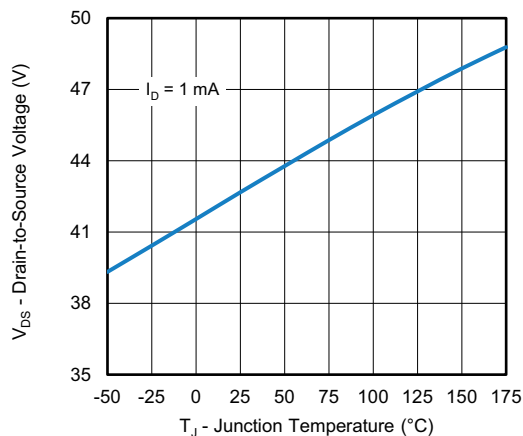
Capacitance



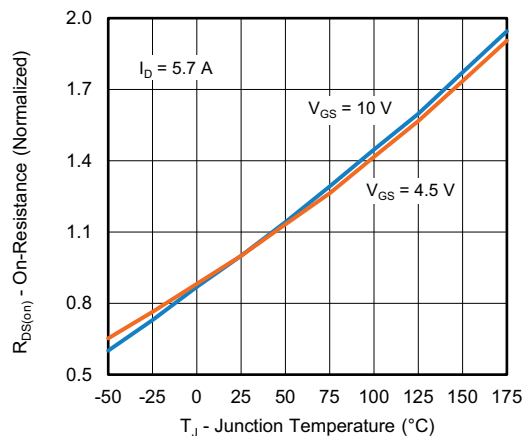
Gate Charge



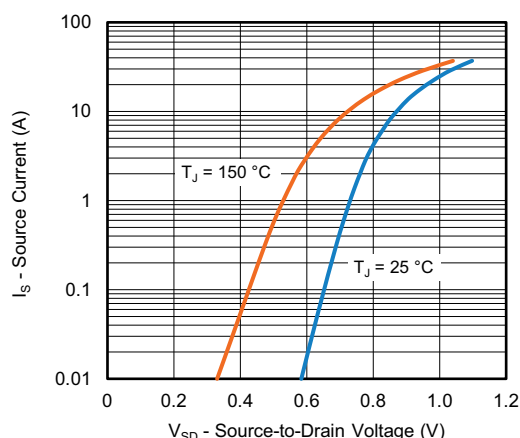
TYPICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise noted)



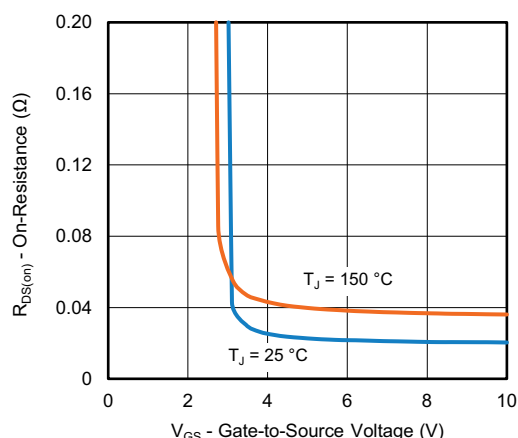
Drain Source Breakdown vs. Junction Temperature



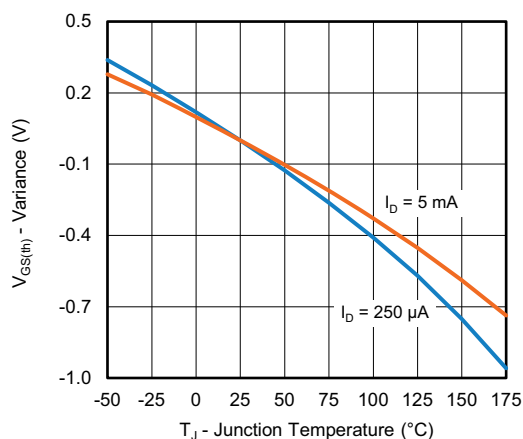
On-Resistance vs. Junction Temperature



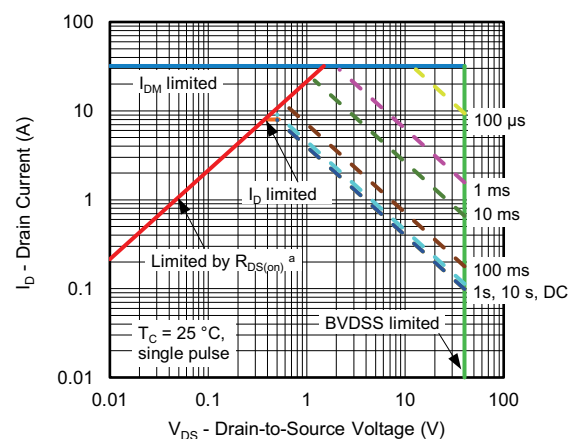
Source Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage



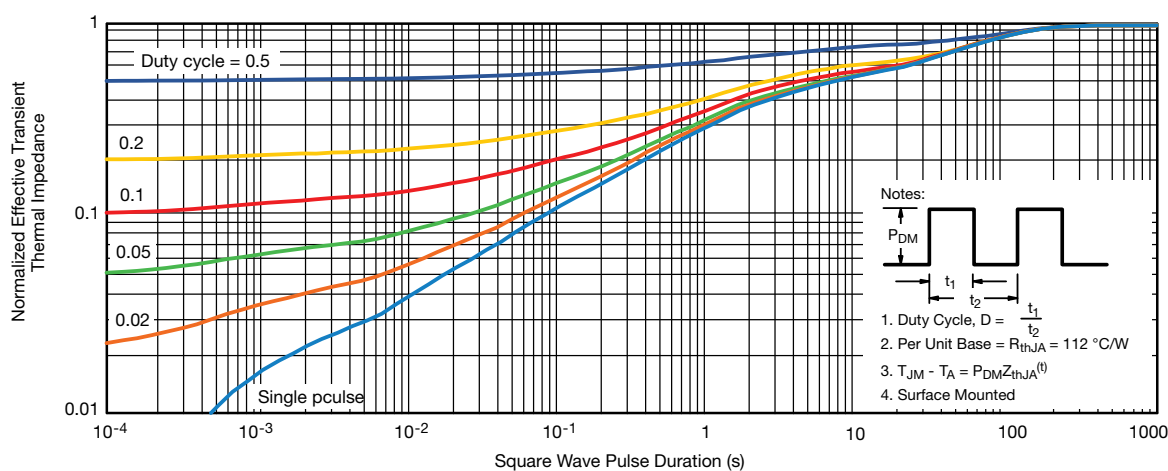
Safe Operating Area

Note

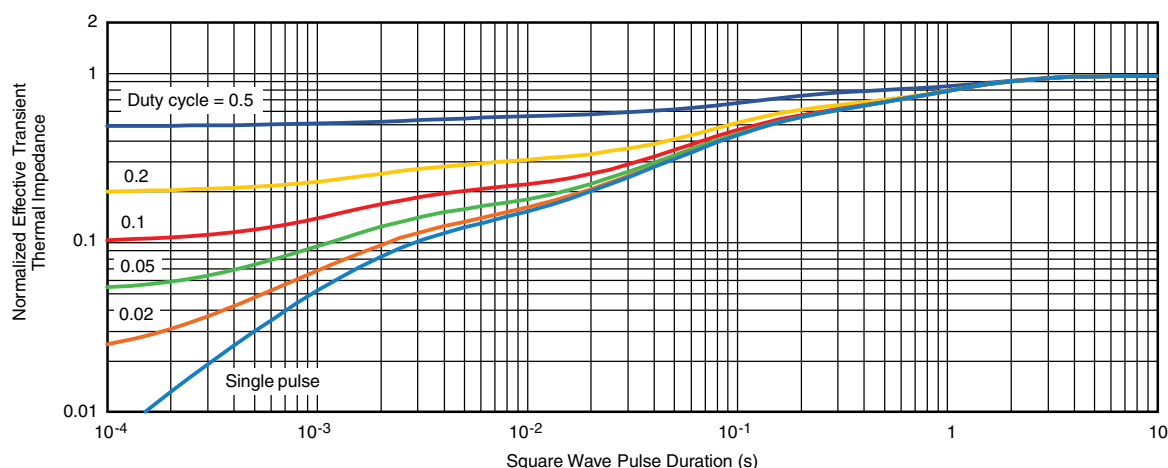
a. $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified



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-Foot

Note

- The characteristics shown in the two graphs
 - Normalized Transient Thermal Impedance Junction-to-Ambient ($25\text{ }^{\circ}\text{C}$)
 - Normalized Transient Thermal Impedance Junction-to-Foot ($25\text{ }^{\circ}\text{C}$)are given for general guidelines only to enable the user to get a “ball park” indication of part capabilities. The data are extracted from single pulse transient thermal impedance characteristics which are developed from empirical measurements. The latter is valid for the part mounted on printed circuit board - FR4, size 1" x 1" x 0.062", double sided with 2 oz. copper, 100 % on both sides. The part capabilities can widely vary depending on actual application parameters and operating conditions

Vishay Siliconix maintains worldwide manufacturing capability. Products may be manufactured at one of several qualified locations. Reliability data for Silicon Technology and Package Reliability represent a composite of all qualified locations. For related documents such as package / tape drawings, part marking, and reliability data, see www.vishay.com/ppg?62020.

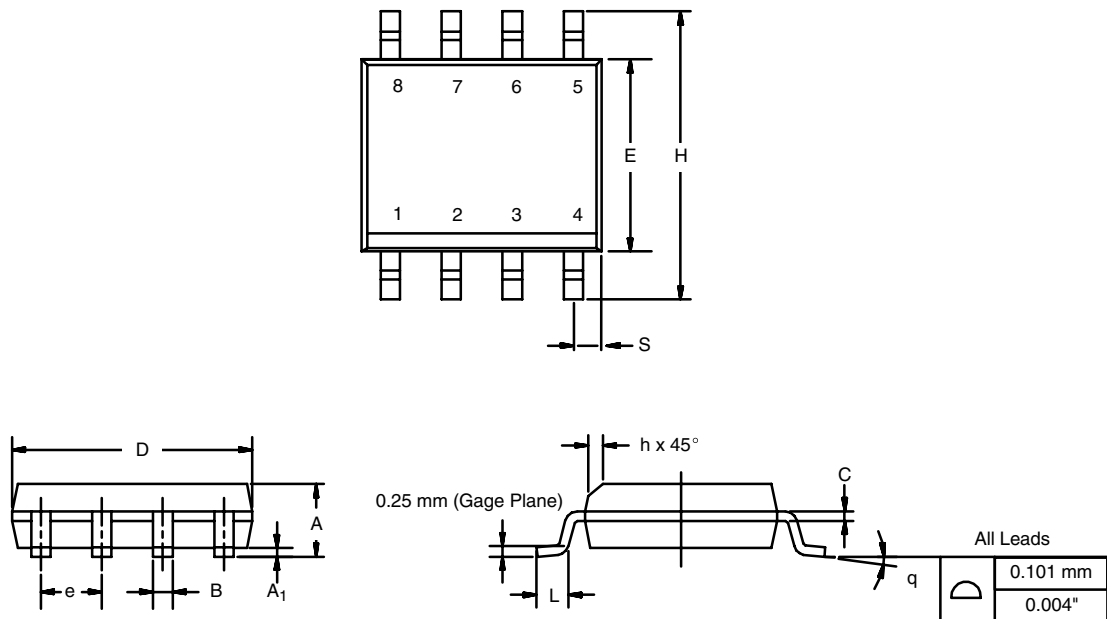


Package Information

Vishay Siliconix

SOIC (NARROW): 8-LEAD

JEDEC Part Number: MS-012



DIM	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A ₁	0.10	0.20	0.004	0.008
B	0.35	0.51	0.014	0.020
C	0.19	0.25	0.0075	0.010
D	4.80	5.00	0.189	0.196
E	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
H	5.80	6.20	0.228	0.244
h	0.25	0.50	0.010	0.020
L	0.50	0.93	0.020	0.037
q	0°	8°	0°	8°
S	0.44	0.64	0.018	0.026

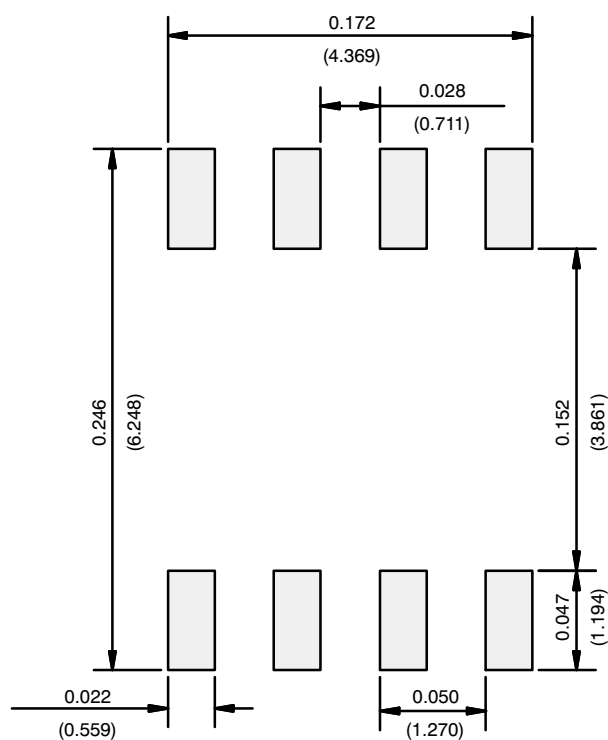
ECN: C-06527-Rev. I, 11-Sep-06
DWG: 5498

Application Note 826

Vishay Siliconix



RECOMMENDED MINIMUM PADS FOR SO-8



Recommended Minimum Pads
Dimensions in Inches/(mm)

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