VISHAY
The DNA of tech.™

Product Termination Notification

PTN

Product Group: SIL/Wednesday June 3, 2026/PTN-SIL-008-2026-REV-0

Conversion to Copper (Cu) Wire – SQ2315ES-T1_BE3

For further information, please contact your regional Vishay office.

CONTACT INFORMATION

Americas

Vishay Siliconix
2565 Junction Ave
-
San Jose CA United States 95134
Phone: (408) 988-8000
Fax:
business-americas@vishay.com

Europe

Vishay Electronic GmbH
Dr.-Felix-Zandman-Platz 1
-
Selb Germany 95100
Phone: 49-9287-71 0
Fax: 49-9287-70435
business-europe@vishay.com

Asia

Vishay Intertechnology Asia Pte. Ltd
37A Tampines Street 92 #07-01
-
Singapore Singapore 528886
Phone: 65 6788 6668
Fax: 65 6788 0988
business-asia@vishay.com

Description of Change: The affected part number listed in this notification will be converted to a Copper wire material set. The new ordering code is SQ2315CES-T1_BE3 which has Identical silicon technology and silicon die design as SQ2315ES. Small changes to the data sheet AC parameters are a consequence of lot to lot variation and/or updated characterization methods (reference: SQ2315CES Doc # 62255 Rev. A). 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: SQ2315ES-T1_BE3

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Last Time Buy Date: Wednesday December 23, 2026

Last Time Ship Date: Wednesday June 23, 2027

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

Product Identification: SQ2315CES-T1_BE3

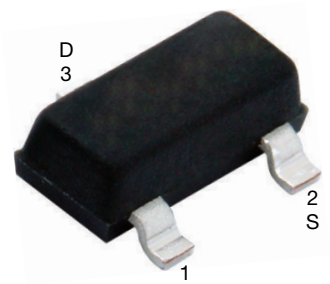
Qualification Data: AEC Q101 qualification data of replacement product is available. Qualification PPAP is available on request.

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

Issued By: Lance Gurrola, automostechsupport.com

Automotive P-Channel 12 V (D-S) 175 °C MOSFET

SOT-23 (TO-236)



Top View

Marking Code: 9T

FEATURES

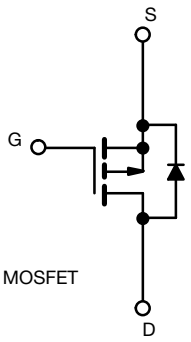
- TrenchFET® power MOSFET
- AEC-Q101 qualified
- 100 % R_g and UIS tested
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE



P-Channel MOSFET

PRODUCT SUMMARY	
V_{DS} (V)	-12
$R_{DS(on)}$ (Ω) at V_{GS} = -4.5 V	0.050
$R_{DS(on)}$ (Ω) at V_{GS} = -2.5 V	0.068
$R_{DS(on)}$ (Ω) at V_{GS} = -1.8 V	0.100
I_D (A)	-5
Configuration	Single

ORDERING INFORMATION	
Package	SOT-23
Lead (Pb)-free and halogen-free	SQ2315CES (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}	-12	V
Gate-source voltage		V_{GS}	± 8	
Continuous drain durrent	T_C = 25 °C	I_D	-5	A
	T_C = 125 °C		-3	
Continuous source current (diode conduction)		I_S	-2.5	
Pulsed drain current [a]		I_{DM}	-20	
Single pulse avalanche current	L = 0.1 mH	I_{AS}	-11	
Single pulse avalanche energy		E_{AS}	6	mJ
Maximum power dissipation	T_C = 25 °C	P_D	2	W
	T_C = 125 °C		0.67	
Operating junction and storage temperature range		T_J, T_{stg}	-55 to +175	°C

THERMAL RESISTANCE RATINGS

PARAMETER		SYMBOL	LIMIT	UNIT
Junction-to-ambient	PCB mount [b]	R_{thJA}	175	°C/W
Junction-to-foot (drain)		R_{thJF}	75	

Notes

a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %

b. When mounted on 1" square PCB (FR4 material)

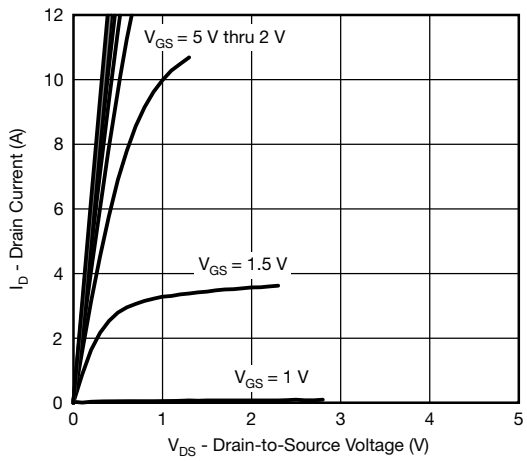
SPECIFICATIONS (T_C = 25 °C, unless otherwise noted)							
PARAMETER	**SYMBOL**	**TEST CONDITIONS**		**MIN.**	**TYP.**	**MAX.**	**UNIT**
Static							
Drain-source breakdown voltage	V_{DS}	V_{GS} = 0 V, I_D = -250 µA		-12	-	-	V
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250 µA		-0.45	-	-1	
Gate-source leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ± 8 V		-	-	± 100	nA
Zero gate voltage drain current	I_{DSS}	V_{GS} = 0 V	V_{DS} = -12 V	-	-	-1	µA
		V_{GS} = 0 V	V_{DS} = -12 V, T_J = 125 °C	-	-	-50	
		V_{GS} = 0 V	V_{DS} = -12 V, T_J = 175 °C	-	-	-150	
On-state drain current [a]	$I_{D(on)}$	V_{GS} = -4.5 V	V_{DS} ≤ -5 V	-10	-	-	A
Drain-source on-state resistance [a]	$R_{DS(on)}$	V_{GS} = -4.5 V	I_D = -3.5 A	-	0.042	0.050	Ω
		V_{GS} = -4.5 V	I_D = -3.5 A, T_J = 125 °C	-	-	0.066	
		V_{GS} = -4.5 V	I_D = -3.5 A, T_J = 175 °C	-	-	0.075	
		V_{GS} = -2.5 V	I_D = -3 A	-	0.059	0.068	
		V_{GS} = -1.8 V	I_D = -2 A	-	0.084	0.100	
Forward transconductance [b]	g_{fs}	V_{DS} = -5 V, I_D = -1.6 A		-	7	-	S
Dynamic [b]							
Input capacitance	C_{iss}	V_{GS} = 0 V	V_{DS} = -6 V, f = 1 MHz	-	704	870	pF
Output capacitance	C_{oss}			-	276	335	
Reverse transfer capacitance	C_{rss}			-	215	240	
Total gate charge [c]	Q_g	V_{GS} = -4.5 V	V_{DS} = -6 V, I_D = -3.85 A	-	9.3	13	nC
Gate-source charge [c]	Q_{gs}			-	1.4	-	
Gate-drain charge [c]	Q_{gd}			-	3.0	-	
Gate resistance	R_g	f = 1 MHz		2.4	4.9	12.3	Ω
Turn-on delay time [c]	$t_{d(on)}$	V_{DD} = -6 V, R_L = 1.6 Ω I_D ≅ -3.85 A, V_{GEN} = -4.5 V, R_g = 1 Ω		-	11	26	ns
Rise time [c]	t_r			-	27	30	
Turn-off delay time [c]	$t_{d(off)}$			-	24	42	
Fall time [c]	t_f			-	14	20	
Source-Drain Diode Ratings and Characteristics [b]							
Pulsed current [a]	I_{SM}			-	-	-20	A
Forward voltage	V_{SD}	I_F = -2 A, V_{GS} = 0 V		-	-0.8	-1.2	V
Body diode reverse recovery time	t_{rr}	I_F = -1.2 A, di/dit = 100 A/µs		-	22	44	ns
Body diode reverse recovery charge	Q_{rr}			-	9	18	nC
Reverse recovery fall time	t_a			-	10	-	ns
Reverse recovery rise time	t_b			-	12	-	
Body diode peak reverse recovery current	$I_{RM(REC)}$			-	-0.674	-	A

Notes

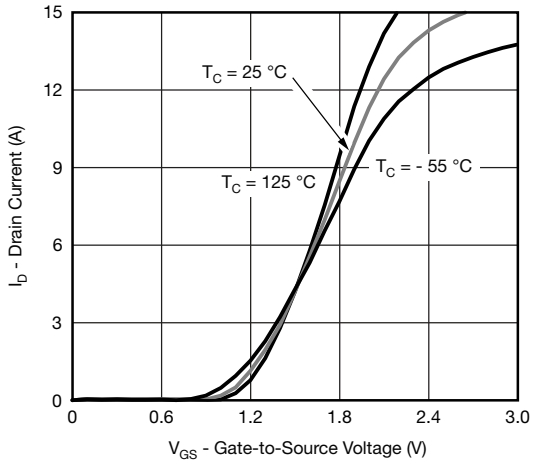
a. Pulse test; pulse width ≤ 300 µs, duty cycle ≤ 2 %
b. Guaranteed by design, not subject to production testing
c. Independent of operating temperature

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.

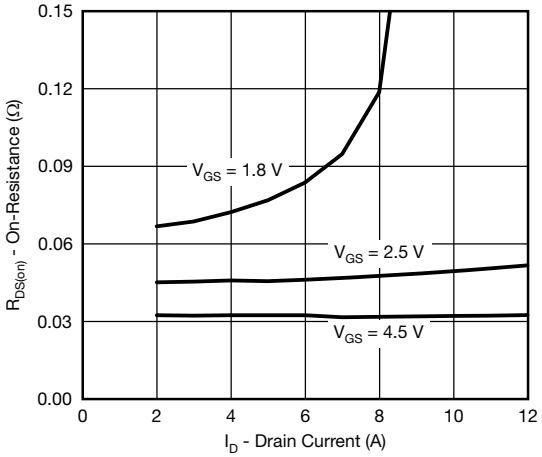
TYPICAL CHARACTERISTICS (T_A = 25 °C, unless otherwise noted)



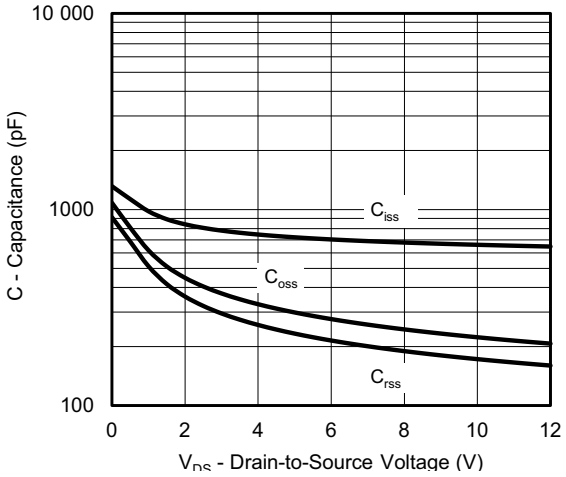
Output Characteristics



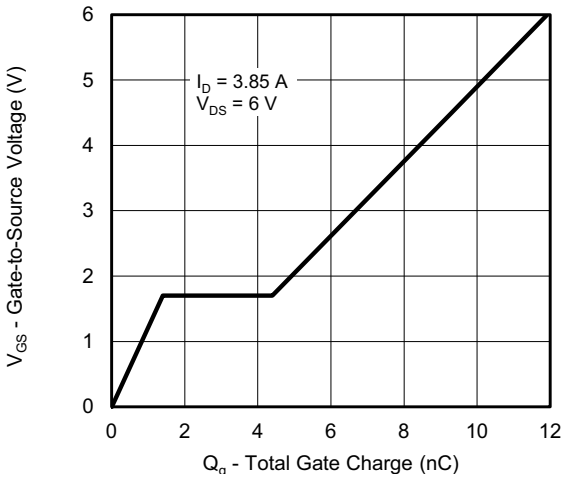
Transfer Characteristics



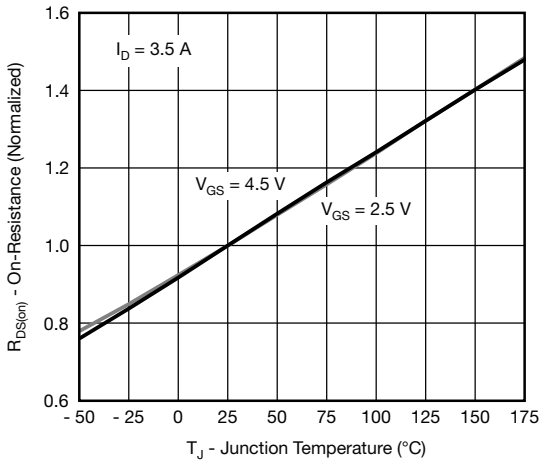
On-Resistance vs. Drain Current



Capacitance

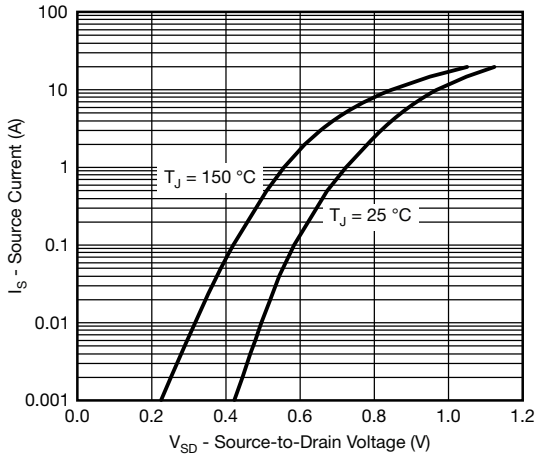


Gate Charge

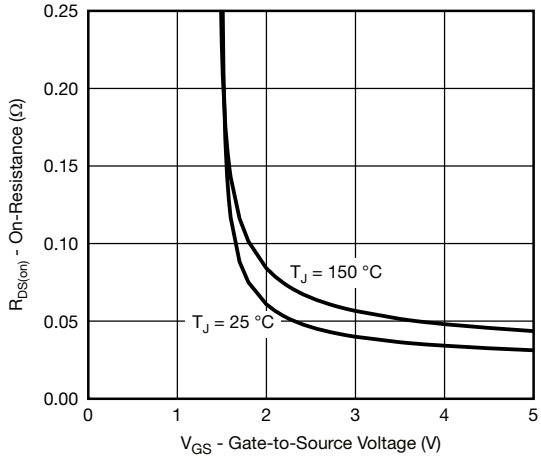


On-Resistance vs. Junction Temperature

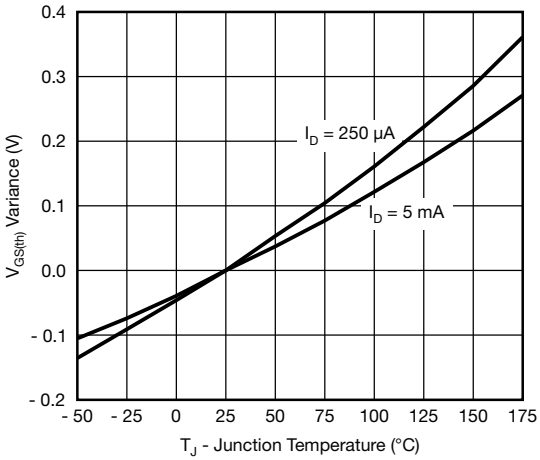
TYPICAL CHARACTERISTICS (T_A = 25 °C, unless otherwise noted)



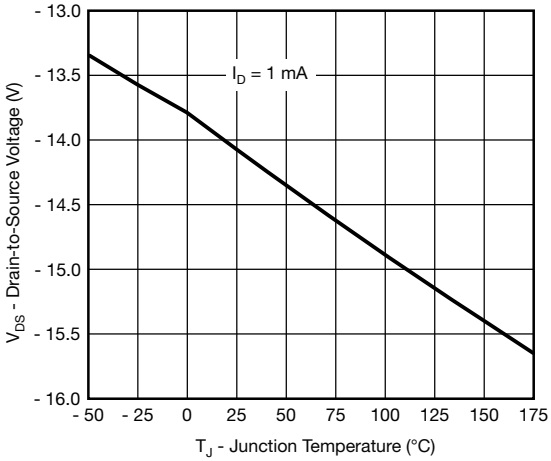
Source-Drain Diode Forward Voltage



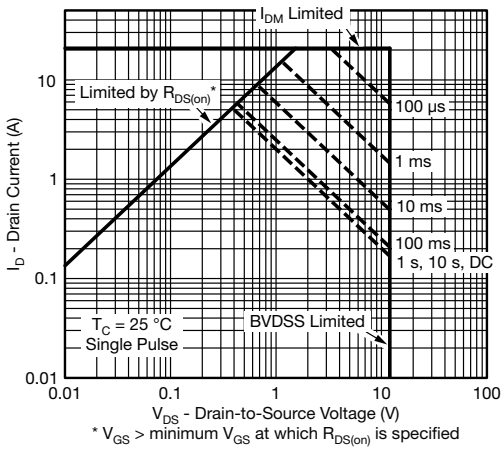
On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage

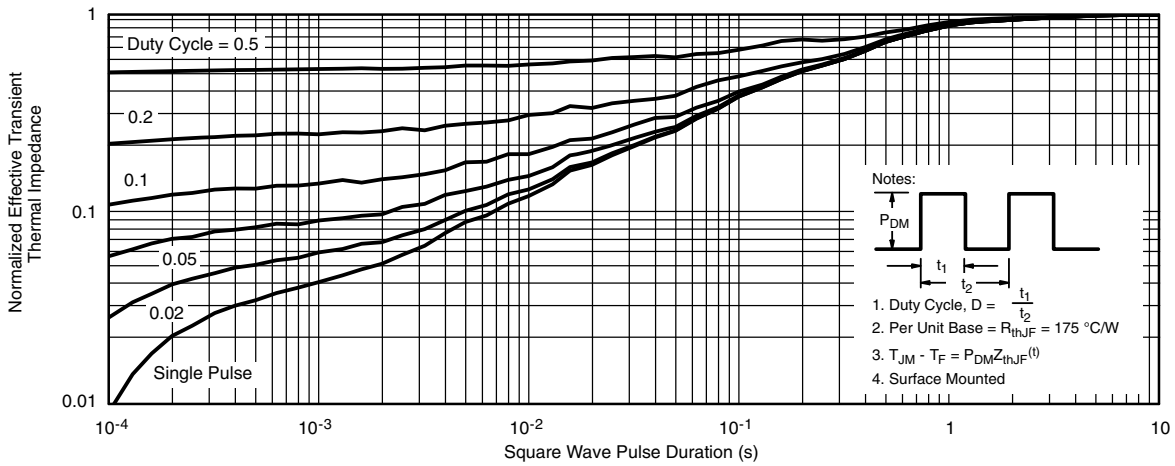


Drain Source Breakdown vs. Junction Temperature

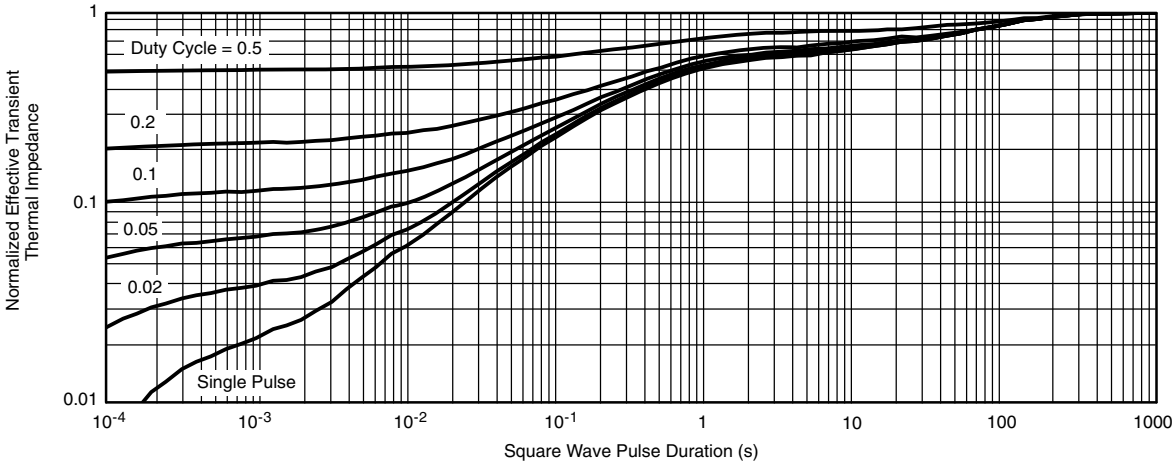


Safe Operating Area

THERMAL RATINGS (T_A = 25 °C, unless otherwise noted)



Normalized Thermal Transient Impedance, Junction-to-Foot



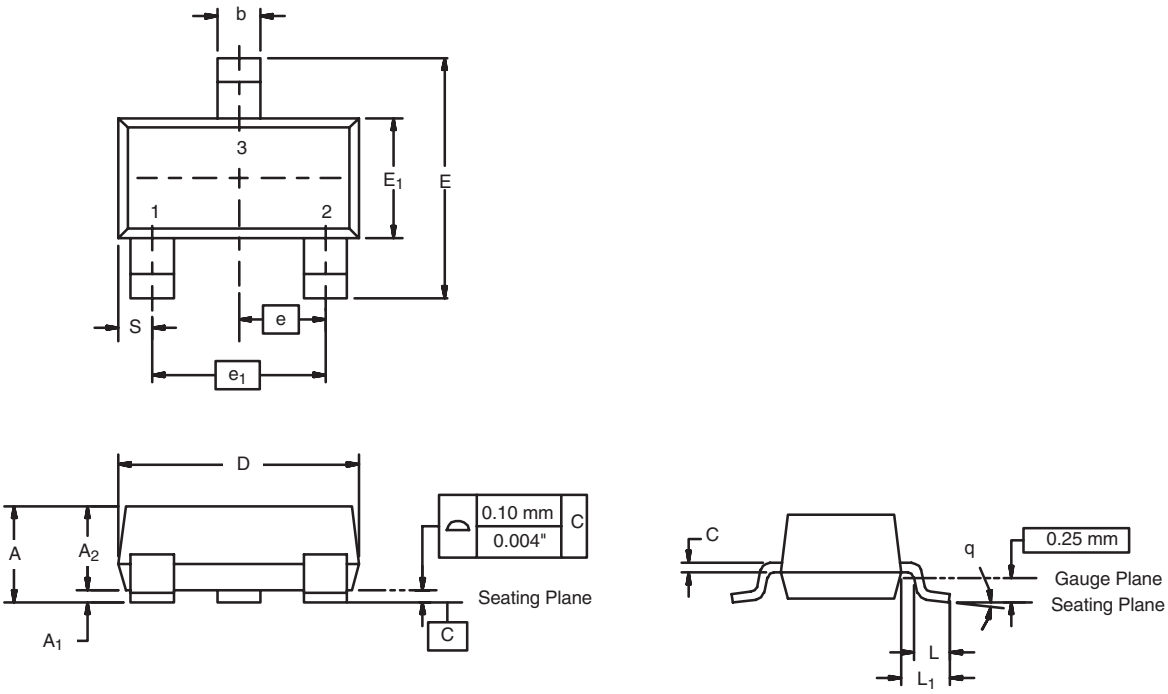
Normalized Thermal Transient Impedance, Junction-to-Ambient

Note

- The characteristics shown in the two graphs
  - Normalized Transient Thermal Impedance Junction-to-Ambient (25 °C)
  - Normalized Transient Thermal Impedance Junction-to-Case (25 °C)

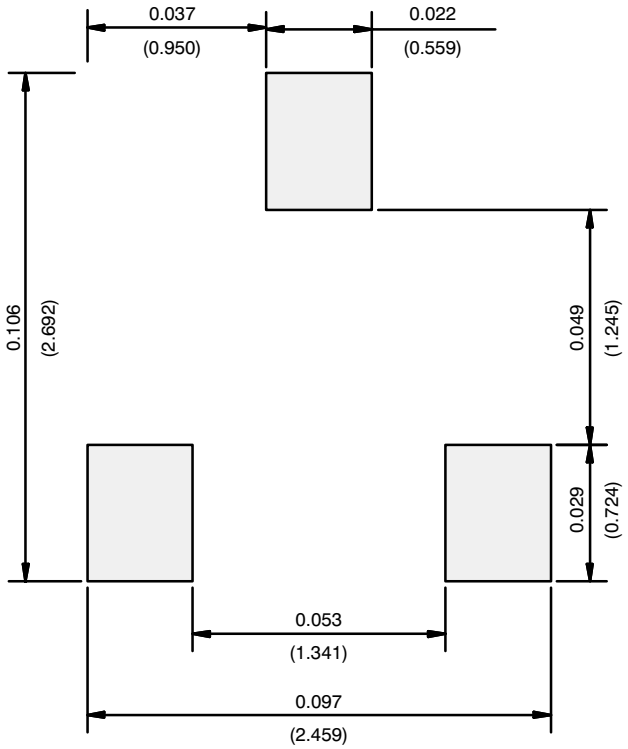
  are given for general guidelines only to enable the user to get a “ball park” indication of part capabilities. The data are extracted from single pulse transient thermal impedance characteristics which are developed from empirical measurements. The latter is valid for the part mounted on printed circuit 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

SOT-23 (TO-236): 3-LEAD



Dim	MILLIMETERS		INCHES	
	Min	Max	Min	Max
A	0.89	1.12	0.035	0.044
A_1	0.01	0.10	0.0004	0.004
A_2	0.88	1.02	0.0346	0.040
b	0.35	0.50	0.014	0.020
c	0.085	0.18	0.003	0.007
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.083	0.104
E_1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.0374 Ref	
e_1	1.90 BSC		0.0748 Ref	
L	0.40	0.60	0.016	0.024
L_1	0.64 Ref		0.025 Ref	
S	0.50 Ref		0.020 Ref	
q	3°	8°	3°	8°
ECN: S-03946-Rev. K, 09-Jul-01 DWG: 5479				

RECOMMENDED MINIMUM PADS FOR SOT-23



Recommended Minimum Pads
Dimensions in Inches/(mm)

Return to Index

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Vishay Mat	Customer P	Location
SQ2315ES-	SLNSQ231	Ft Worth