2A, 20V - 150V Schottky Barrier Surface Mount Rectifier

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- Converter

MECHANICAL DATA

- Case: DO-214AC (SMA)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.070g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	2	A
V_{RRM}	20 - 150	V
I_{FSM}	50	A
$T_{J\ MAX}$	125, 150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AC (SMA)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)										
PARAMETER	**SYMBOL**	**SK 22A**	**SK 23A**	**SK 24A**	**SK 25A**	**SK 26A**	**SK 29A**	**SK 210A**	**SK 215A**	**UNIT**
Marking code on the device		SK 22A	SK 23A	SK 24A	SK 25A	SK 26A	SK 29A	SK 210A	SK 215A	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	V
Forward current	I_F	2								A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50								A
Non-repetitive peak reverse avalanche energy, L = 40mH	E_{RSM}	20								mJ
Critical rate of rise of off-state voltage	dV/dt	10,000								V/μs
Junction temperature	T_J	-55 to +125				-55 to +150				°C
Storage temperature	T_{STG}	-55 to +150								°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	88	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SK22A SK23A SK24A	I_F = 2A, T_J = 25°C	V_F	-	0.50	V
	SK25A SK26A			-	0.70	V
	SK29A SK210A			-	0.85	V
	SK215A			-	0.95	V
Reverse current @ rated V_R[2]	SK22A SK23A SK24A SK25A SK26A	T_J = 25°C	I_R	-	0.5	mA
	SK29A SK210A SK215A			-	0.1	mA
	SK22A SK23A SK24A	T_J = 100°C	I_R	-	10	mA
	SK25A SK26A			-	5	mA
	SK29A SK210A SK215A			-	-	mA
	SK22A SK23A SK24A SK25A SK26A	T_J = 125°C	I_R	-	-	mA
	SK29A SK210A SK215A			-	2	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
SK2xA	DO-214AC (SMA)	7,500 / Tape & Reel

Notes:

1. "x" defines voltage from 20V(SK22A) to 150V(SK215A)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

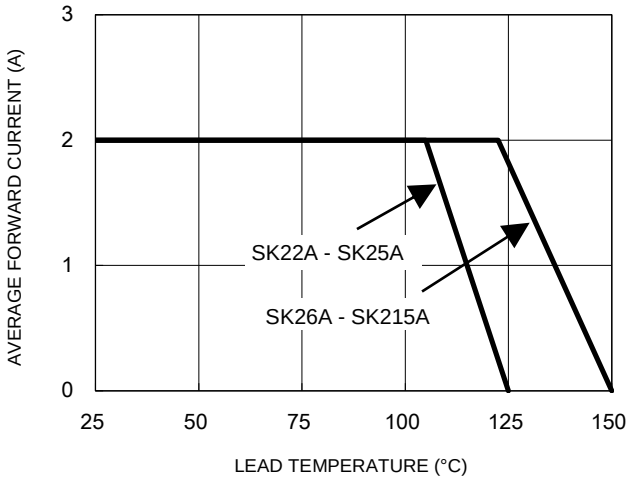


Fig.2 Typical Junction Capacitance

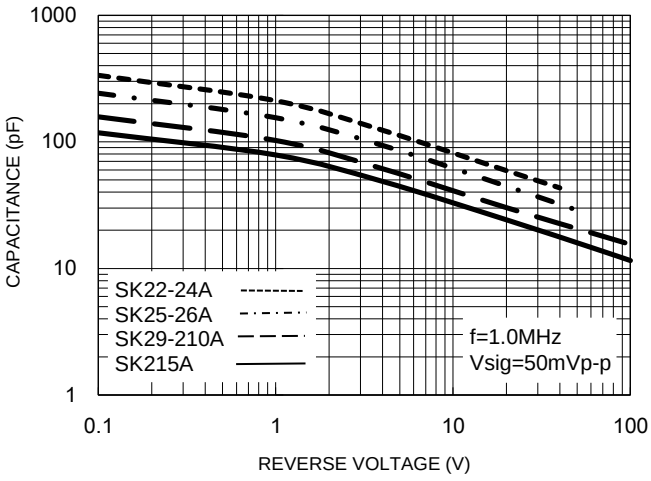


Fig.3 Typical Reverse Characteristics

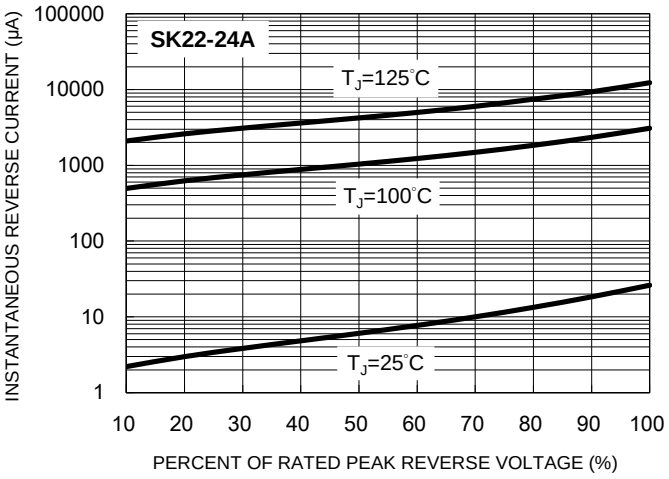


Fig.4 Typical Forward Characteristics

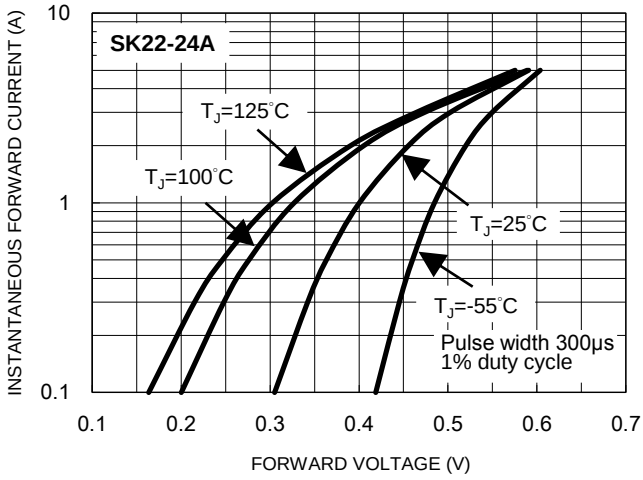


Fig.5 Typical Reverse Characteristics

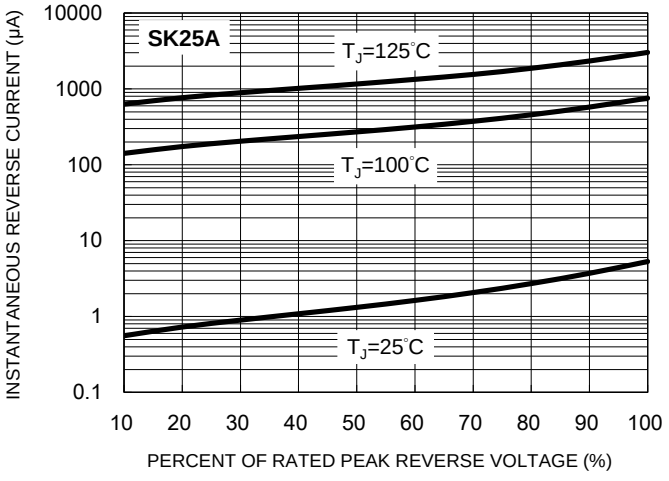
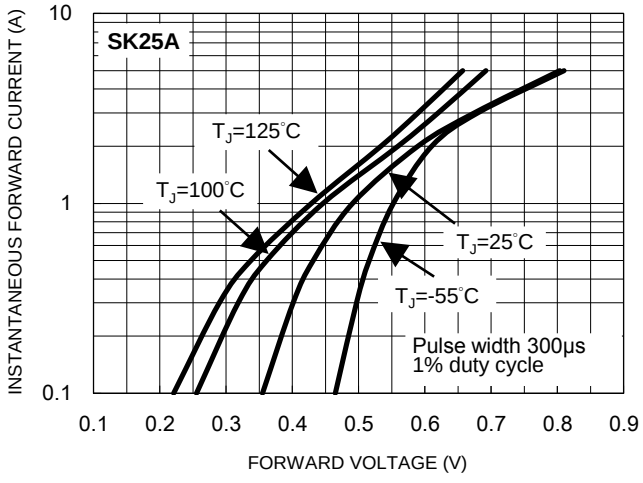


Fig.6 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.7 Typical Reverse Characteristics

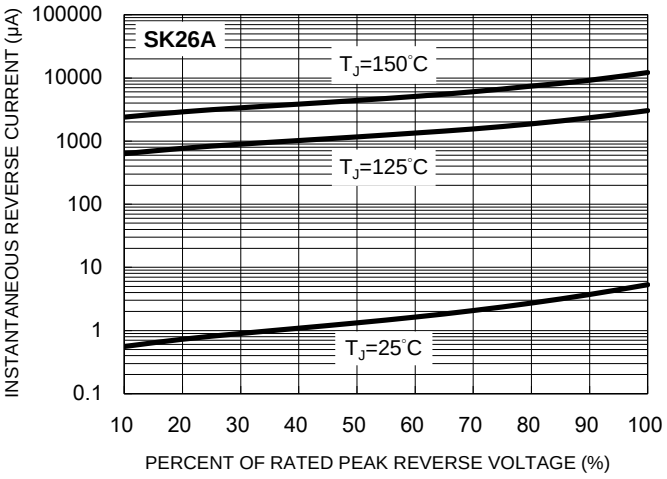


Fig.8 Typical Forward Characteristics

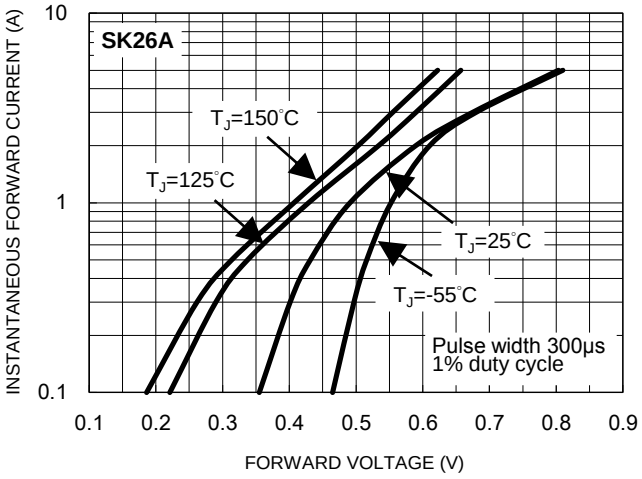


Fig.9 Typical Reverse Characteristics

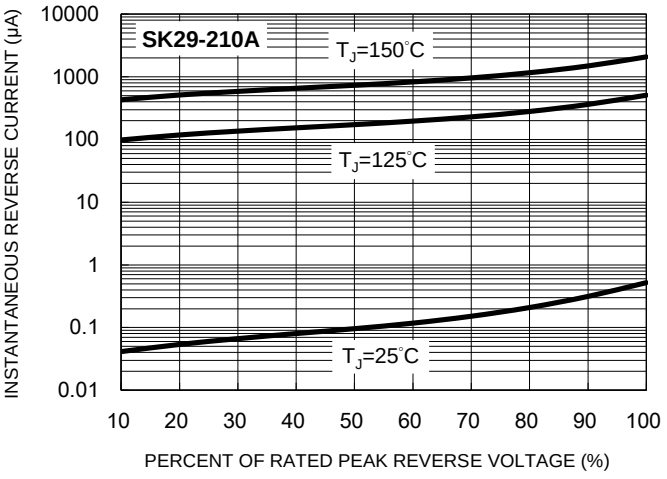


Fig.10 Typical Forward Characteristics

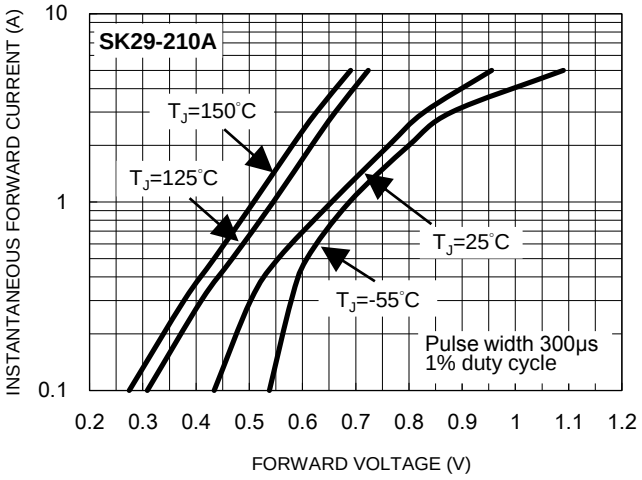


Fig.11 Typical Reverse Characteristics

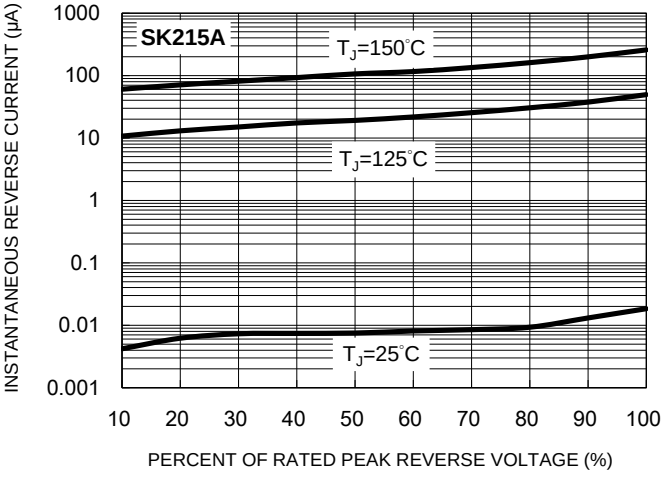
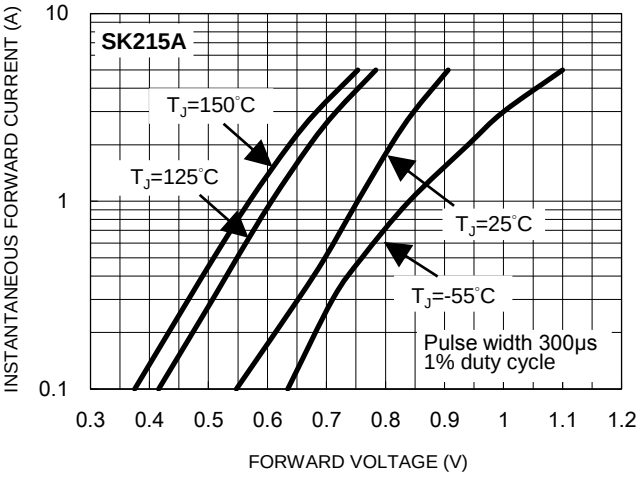


Fig.12 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.13 Maximum Non-Repetitive Forward Surge Current

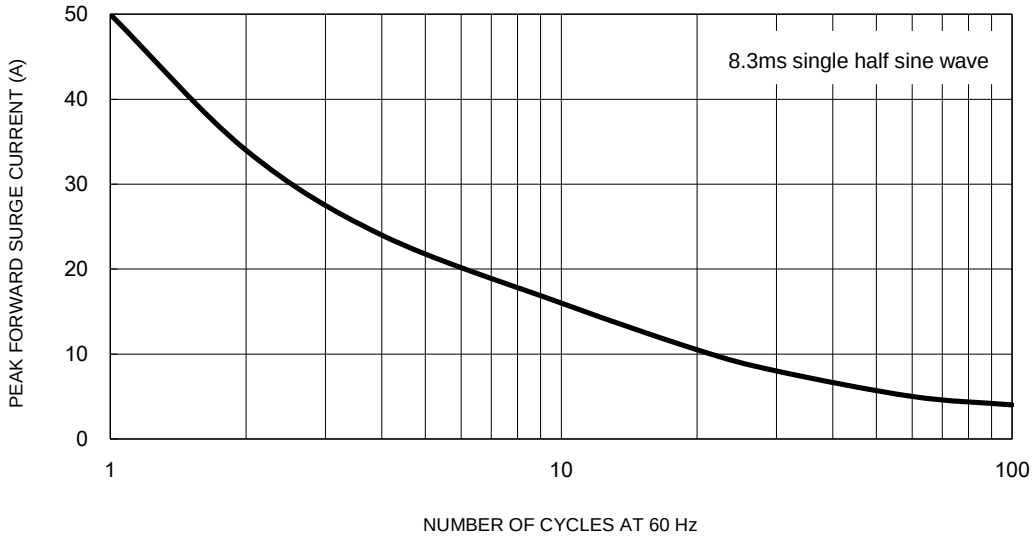
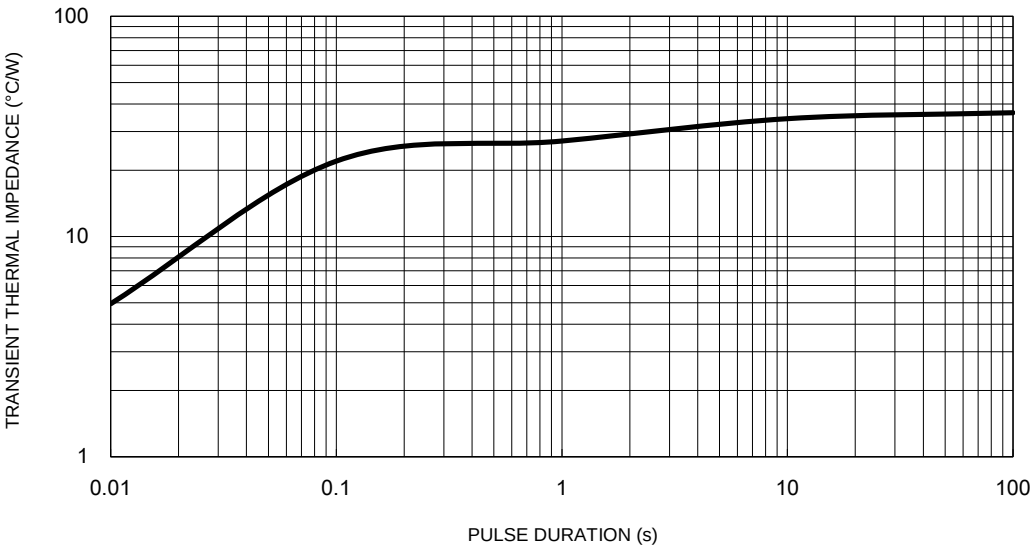
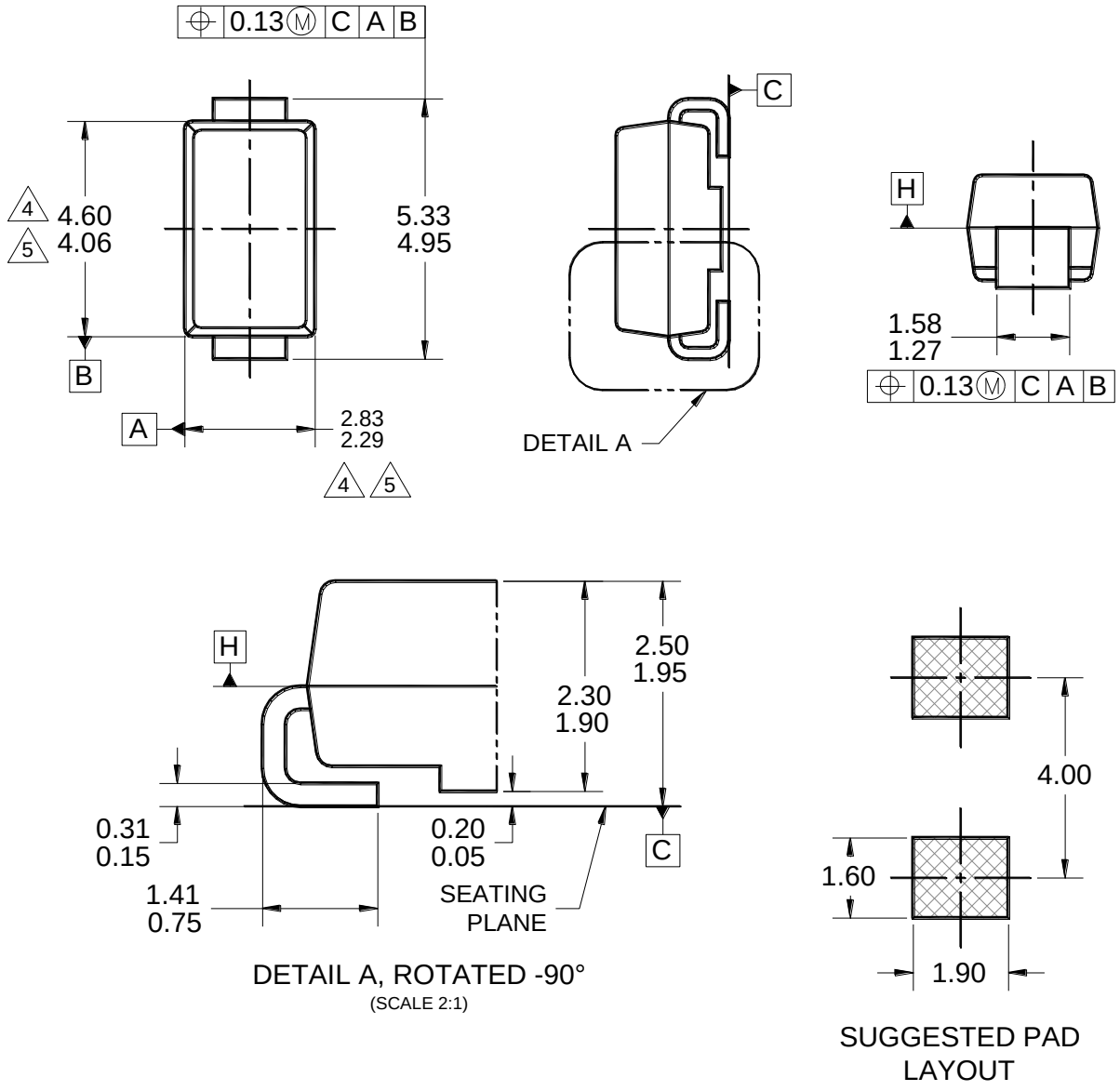


Fig.14 Typical Transient Thermal Characteristics



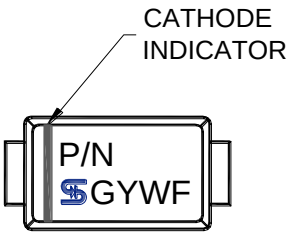
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DETAIL A, ROTATED -90°
(SCALE 2:1)

SUGGESTED PAD LAYOUT



MARKING DIAGRAM

P/N = MARKING CODE
G = GREEN COMPOUND
YW = DATE CODE
F = FACTORY CODE

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-214, VARIATION AC, ISSUE D.
4. MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
5. MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
6. DWG NO. REF: HQ2SD07-DO214SMC-034 REV A.

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