

2A, 20V - 200V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified available
- Low forward voltage drop
- Low power loss, high efficiency
- Guard ring for overvoltage protection
- High surge current capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converter

MECHANICAL DATA

- Case: DO-204AC (DO-15)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.400g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	2	A
V_{RRM}	20 - 200	V
I_{FSM}	50	A
T_{JMAX}	125, 150	°C
Package	DO-204AC (DO-15)	
Configuration	Single die	



DO-204AC (DO-15)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)											
PARAMETER	SYMBOL	SR 202	SR 203	SR 204	SR 205	SR 206	SR 209	SR 210	SR 215	SR 220	UNIT
Marking code on the device		SR 202	SR 203	SR 204	SR 205	SR 206	SR 209	SR 210	SR 215	SR 220	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	140	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
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-lead thermal resistance	$R_{\theta JL}$	21.7	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	75.0	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	14.0	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	SR202 SR203 SR204	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$	V_F	-	0.55	V
	SR205 SR206			-	0.70	V
	SR209 SR210			-	0.85	V
	SR215 SR220			-	0.95	V
Reverse current @ rated V_R ⁽²⁾	SR202 SR203 SR204 SR205 SR206	$T_J = 25^\circ\text{C}$	I_R	-	500	μA
	SR209 SR210 SR215 SR220	$T_J = 100^\circ\text{C}$		-	100	μA
	SR202 SR203 SR204			$T_J = 125^\circ\text{C}$	-	10
	SR205 SR206	-			5	mA
	SR209 SR210 SR215 SR220	-			-	mA
	SR202 SR203 SR204	$T_J = 125^\circ\text{C}$		-	-	mA
	SR205 SR206			-	-	mA
	SR209 SR210 SR215 SR220			-	2	mA

Notes:

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

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾⁽²⁾	PACKAGE	PACKING
SR2x	DO-204AC (DO-15)	3,500 / Tape & Reel
SR2x A0G	DO-204AC (DO-15)	1,500 / Ammo box
SR2xH	DO-204AC (DO-15)	3,500 / Tape & Reel
SR2xHA0G	DO-204AC (DO-15)	1,500 / Ammo box

Notes:

1. "x" defines voltage from 20V (SR202) to 200V (SR220)
2. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

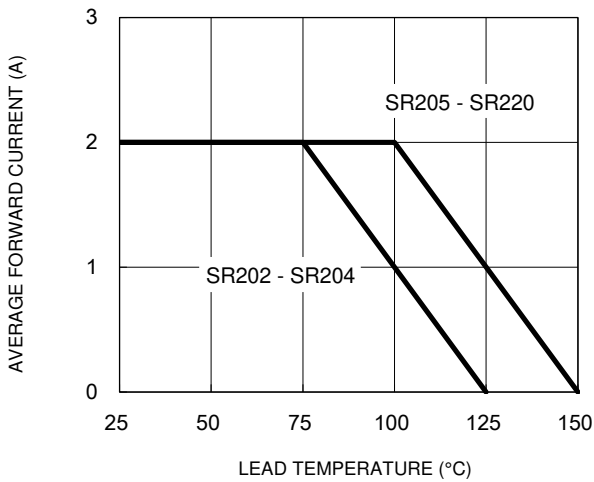


Fig.2 Typical Junction Capacitance

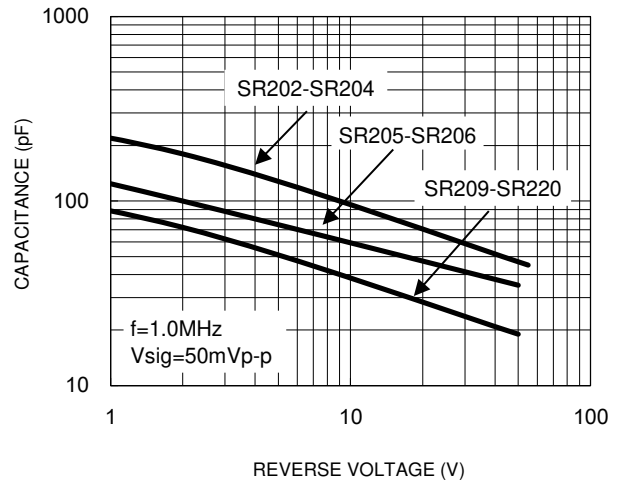


Fig.3 Typical Reverse Characteristics

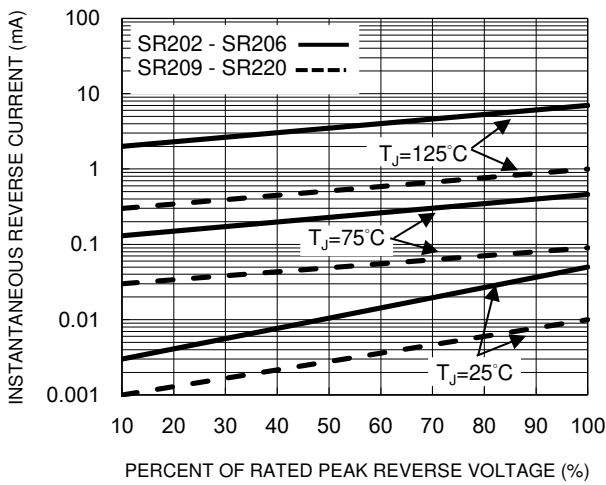


Fig.4 Typical Forward Characteristics

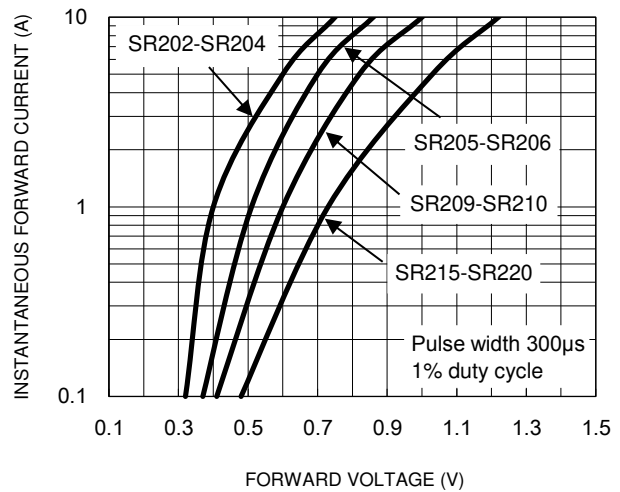


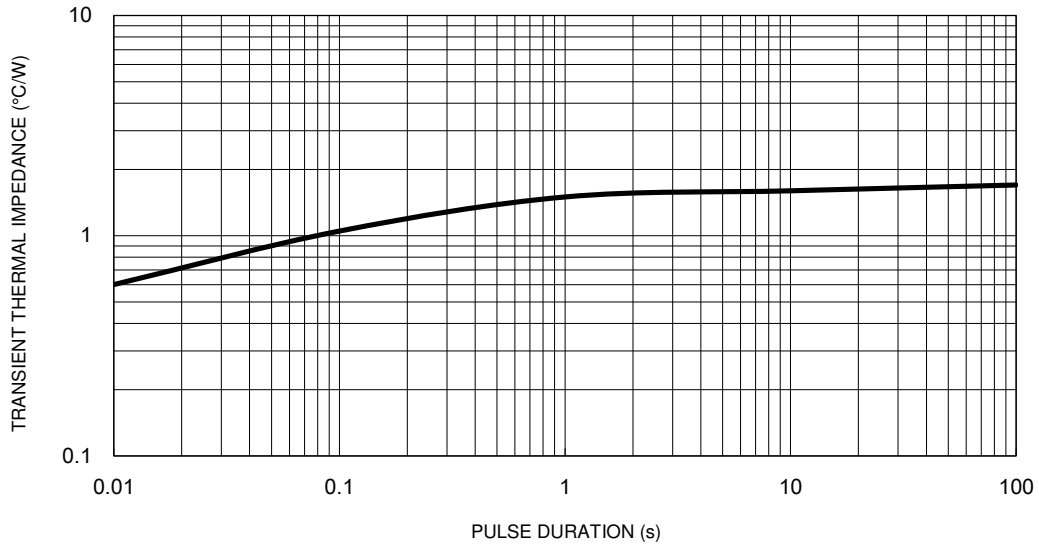
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

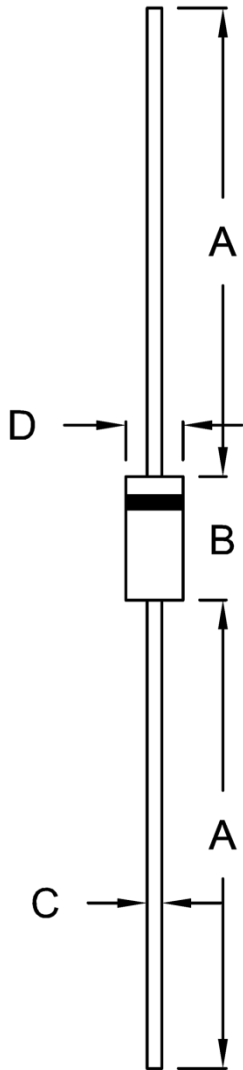
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



PACKAGE OUTLINE DIMENSIONS

DO-204AC (DO-15)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	5.80	7.60	0.228	0.299
C	0.70	0.90	0.028	0.035
D	2.60	3.60	0.102	0.142

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.