1A, 20V - 150V 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-204AL (DO-41)
- 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: 0.330g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	1	A
V_{RRM}	20 - 150	V
I_{FSM}	30	A
$T_{J\ MAX}$	125, 150	°C
Package	DO-204AL (DO-41)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-204AL (DO-41)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	SR 102	SR 103	SR 104	SR 105	SR 106	SR 109	SR 110	SR 115	UNIT
Marking code on the device		SR 102	SR 103	SR 104	SR 105	SR 106	SR 109	SR 110	SR 115	
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	1								A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	30								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-ambient thermal resistance	$R_{\Theta JA}$	90	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SR102 SR103 SR104	I_F = 1A, T_J = 25°C	V_F	-	0.55	V
	SR105 SR106			-	0.70	V
	SR109 SR110			-	0.85	V
	SR115			-	0.95	V
Reverse current @ rated V_R[2]	SR102 SR103 SR104 SR105 SR106	T_J = 25°C	I_R	-	500	µA
	SR109 SR110 SR115			-	100	µA
	SR102 SR103 SR104	T_J = 100°C		-	10	mA
	SR105 SR106			-	5	mA
	SR109 SR110 SR115			-	-	mA
	SR102 SR103 SR104	T_J = 125°C		-	-	mA
	SR105 SR106			-	-	mA
	SR109 SR110 SR115			-	2	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
SR1x	DO-204AL (DO-41)	5,000 / Tape & Reel
SR1x A0G	DO-204AL (DO-41)	3,000 / Ammo box
SR1xH	DO-204AL (DO-41)	5,000 / Tape & Reel
SR1xHA0G	DO-204AL (DO-41)	3,000 / Ammo box

Notes:

1. “x” defines voltage from 20V (SR102) to 150V (SR115)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

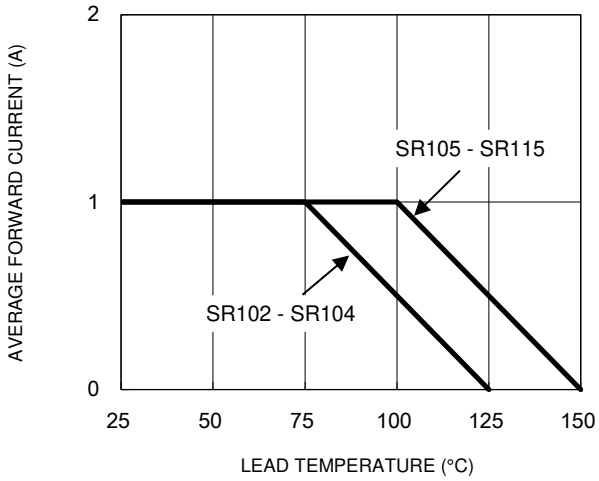


Fig.2 Typical Junction Capacitance

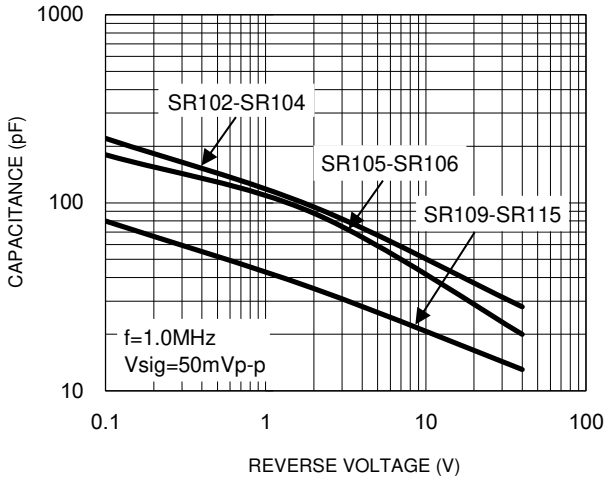


Fig.3 Typical Reverse Characteristics

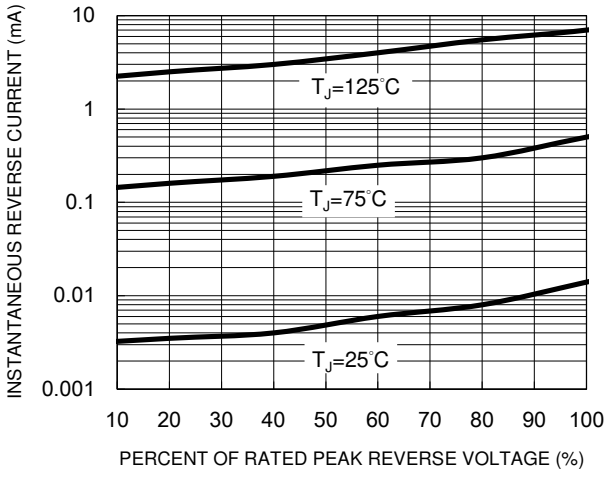


Fig.4 Typical Forward Characteristics

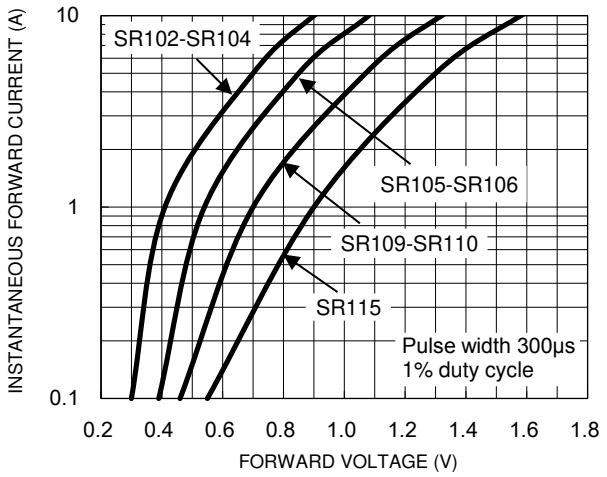
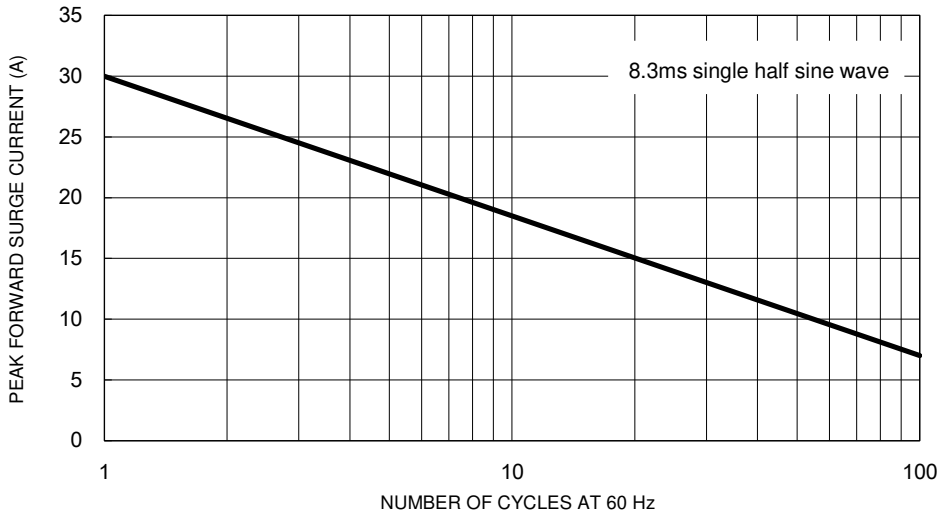


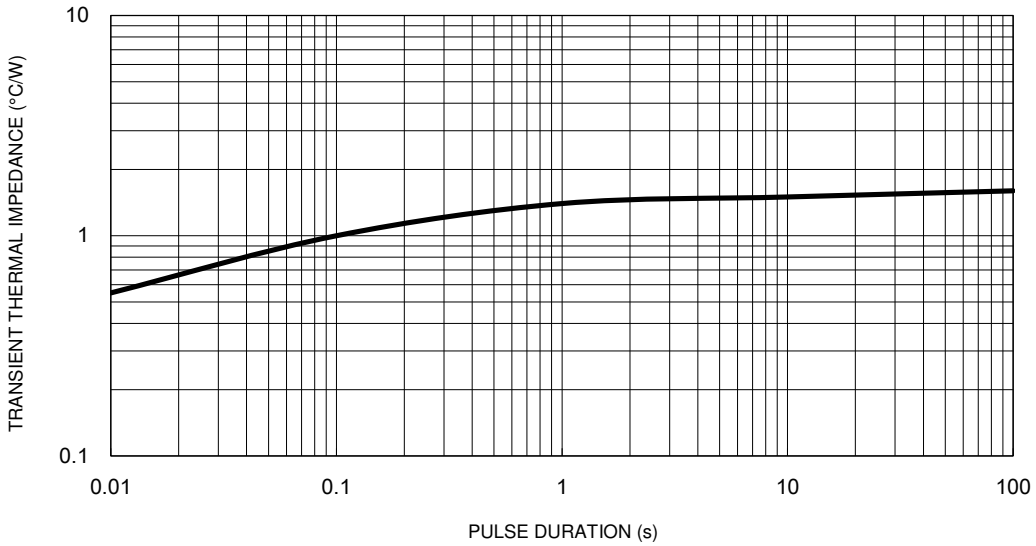
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

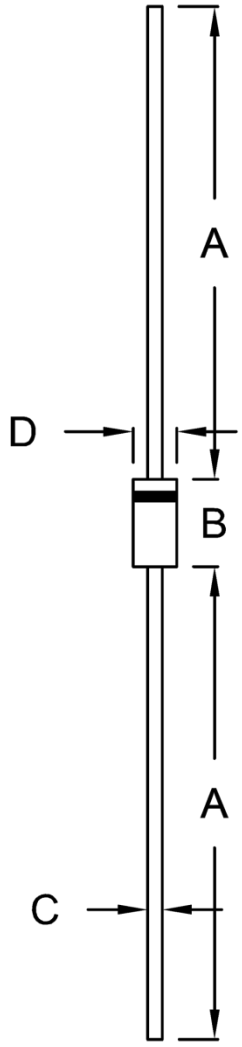
(T_A = 25°C unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



PACKAGE OUTLINE DIMENSIONS

DO-204AL (DO-41)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	4.20	5.20	0.165	0.205
C	0.71	0.86	0.028	0.034
D	2.00	2.70	0.079	0.106

MARKING DIAGRAM

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

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