0.5A, 20V - 100V 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	0.5	A
V_{RRM}	20 - 100	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 002**	**SR 003**	**SR 004**	**SR 005**	**SR 006**	**SR 009**	**SR 010**	**UNIT**
Marking code on the device		SR 002	SR 003	SR 004	SR 005	SR 006	SR 009	SR 010	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	V
Forward current	I_F	0.5							A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	30							A
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	$R_{\Theta JA}$	50	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SR002 SR003 SR004	I_F = 0.5A, T_J = 25°C	V_F	-	0.55	V
	SR005 SR006			-	0.70	V
	SR009 SR010			-	0.85	V
Reverse current @ rated V_R[2]	SR002 SR003 SR004 SR006	T_J = 25°C	I_R	-	500	μA
	SR009 SR010			-	100	μA
	SR002 SR003 SR004	T_J = 100°C		-	10	mA
	SR005 SR006			-	5	mA
	SR009 SR010			-	-	mA
	SR002 SR003 SR004	T_J = 125°C		-	-	mA
	SR005 SR006			-	-	mA
	SR009 SR010			-	2	mA
Junction capacitance	SR002 SR003 SR004	1MHz, V_R = 4.0V	C_J	110	-	pF
	SR005 SR006			80	-	pF
	SR009 SR010			65	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
SR0x	DO-204AL (DO-41)	5,000 / Tape & Reel
SR0x A0G	DO-204AL (DO-41)	3,000 / Ammo box
SR0xH	DO-204AL (DO-41)	5,000 / Tape & Reel
SR0xHA0G	DO-204AL (DO-41)	3,000 / Ammo box

Notes:

1. “x” defines voltage from 20V (SR002) to 100V (SR010)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

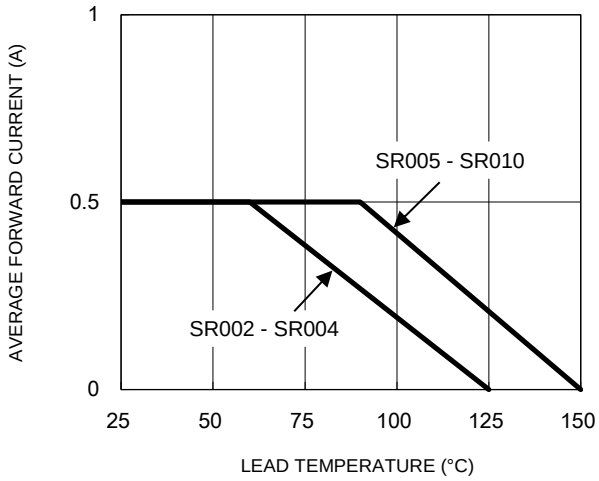


Fig.2 Typical Junction Capacitance

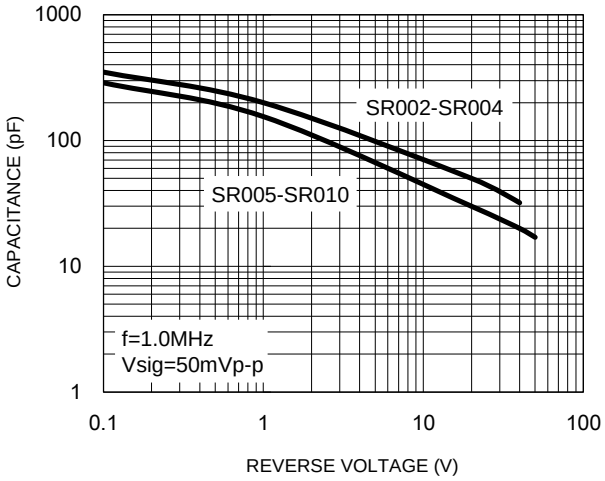


Fig.3 Typical Reverse Characteristics

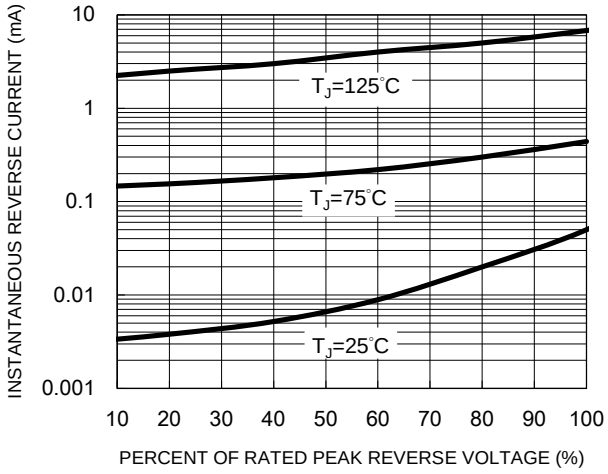


Fig.4 Typical Forward Characteristics

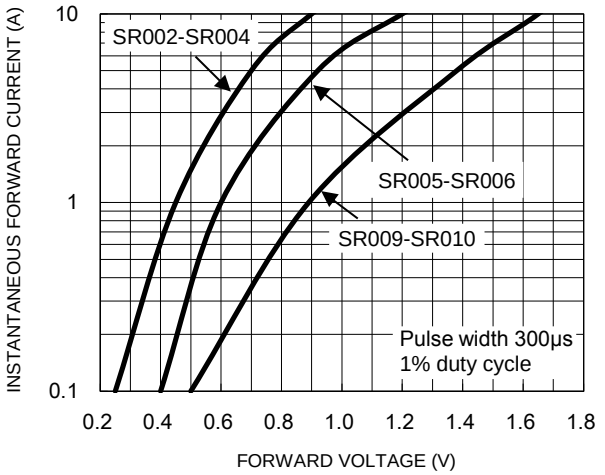
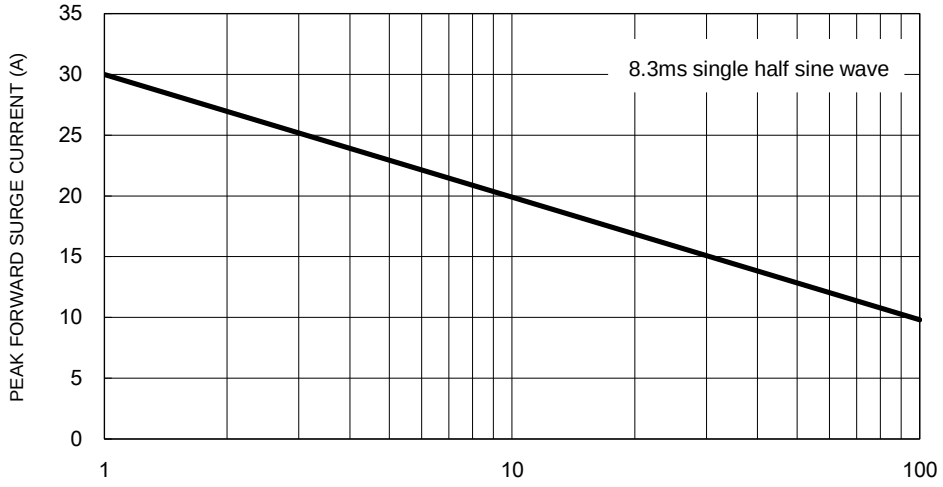


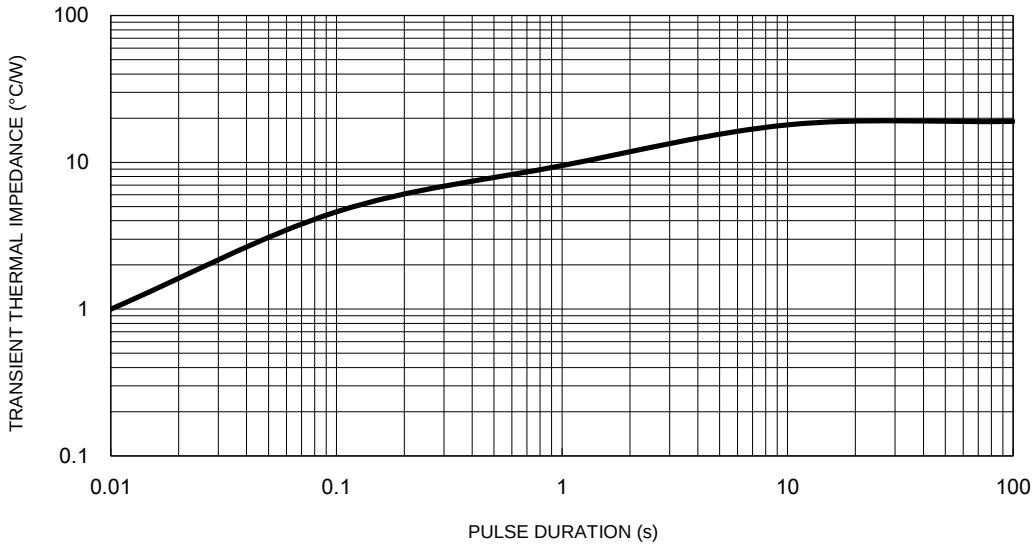
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

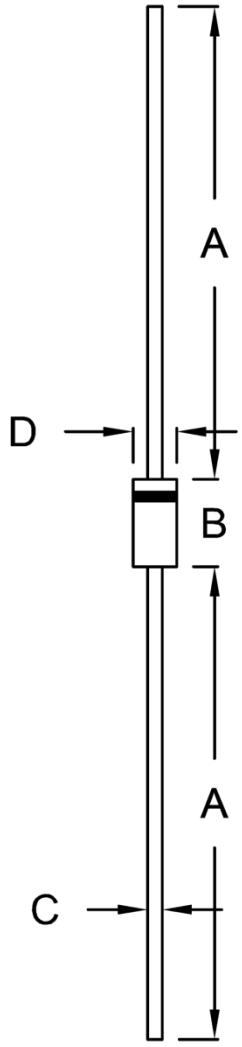
(T_A = 25°C unless otherwise noted)

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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