16A, 20V - 100V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified available
- 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

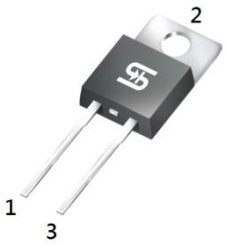
- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

MECHANICAL DATA

- Case: TO-220AC
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Mounting torque: 0.56 N·m maximum
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.86g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	16	A
V_{RRM}	20 - 100	V
I_{FSM}	200	A
$T_{J\,MAX}$	125, 150	°C
Package	TO-220AC	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE



TO-220AC

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

PARAMETER	SYMBOL	SRA 1620	SRA 1630	SRA 1640	SRA 1650	SRA 1660	SRA 1690	SRA 16100	UNIT
Marking code on the device		SRA 1620	SRA 1630	SRA 1640	SRA 1650	SRA 1660	SRA 1690	SRA 16100	
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	16							A
Surge peak forward current 8.3ms single half sine wave superimposed on rated load	I_{FSM}	200							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-case resistance	$R_{\Theta JC}$	5	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SRA1620 SRA1630 SRA1640	I_F = 16A, T_J = 25°C	V_F	-	0.55	V
	SRA1650 SRA1660			-	0.70	V
	SRA1690 SRA16100			-	0.92	V
Reverse current @ rated V_R[2]	SRA1620 SRA1630 SRA1640 SRA1650 SRA1660	T_J = 25°C	I_R	-	500	μA
	SRA1690 SRA16100			-	100	μA
	SRA1620 SRA1630 SRA1640	T_J = 100°C		-	15	mA
	SRA1650 SRA1660			-	10	mA
	SRA1690 SRA16100			-	-	mA
	SRA1620 SRA1630 SRA1640 SRA1650 SRA1660	T_J = 125°C		-	-	mA
	SRA1690 SRA16100			-	5	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1][2]	PACKAGE	PACKING
SRA16x	TO-220AC	50 / Tube
SRA16xH	TO-220AC	50 / Tube

Notes:

1. “x” defines voltage from 20V(SRA1620) to 100V(SRA16100)
2. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

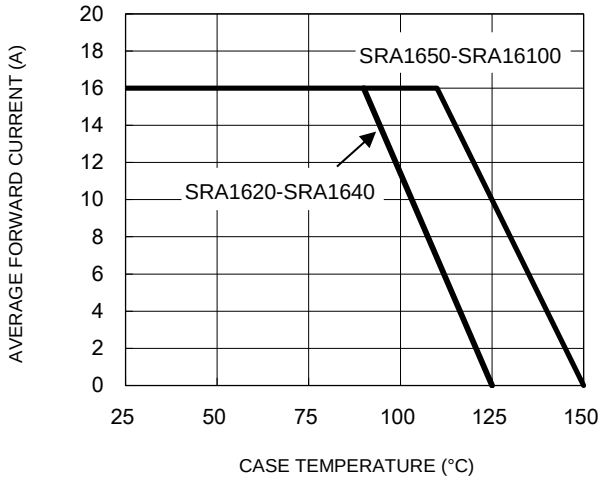


Fig.2 Typical Junction Capacitance

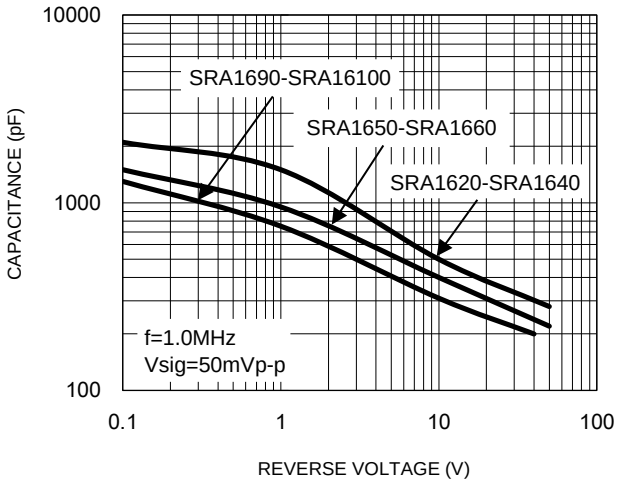


Fig.3 Typical Reverse Characteristics

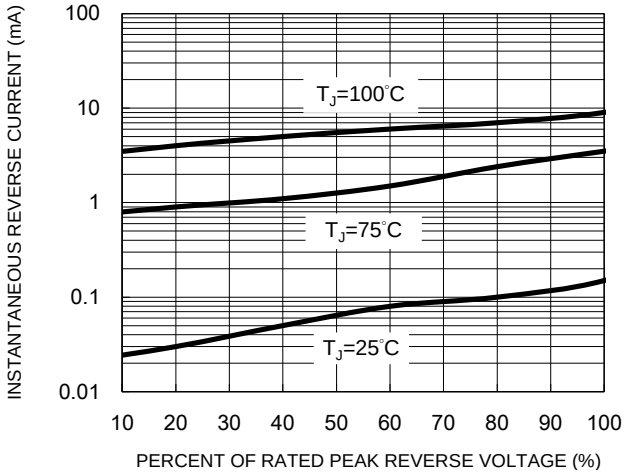


Fig.4 Typical Forward Characteristics

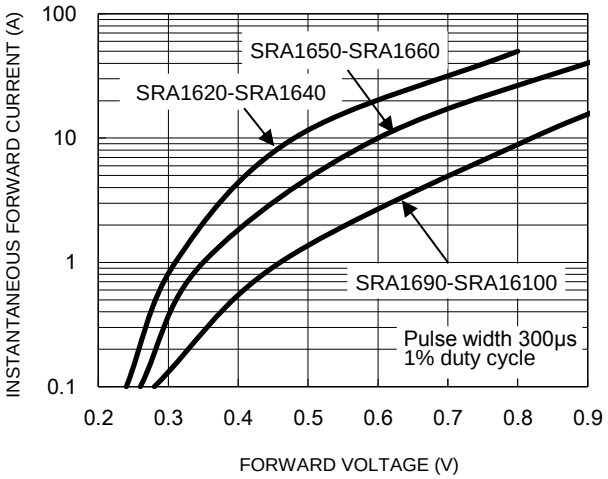
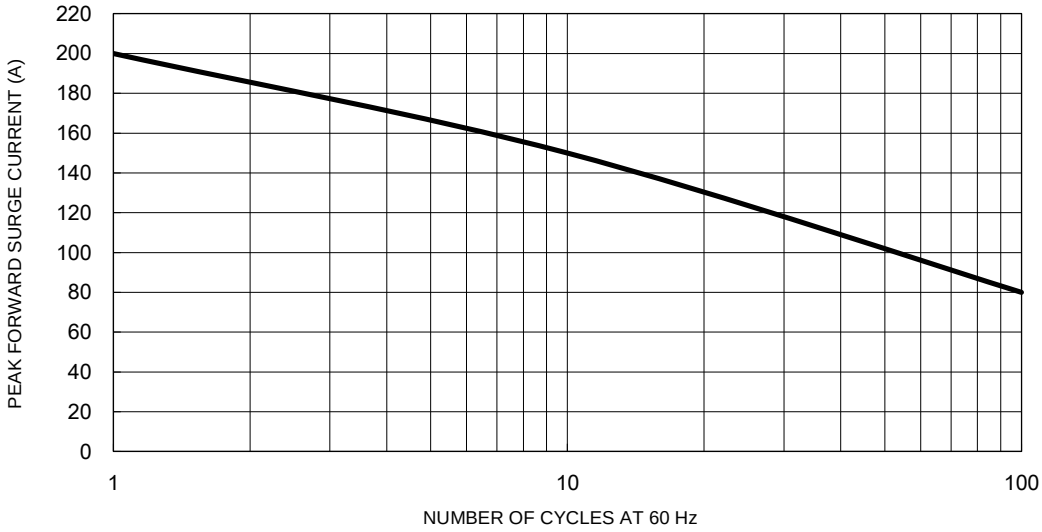


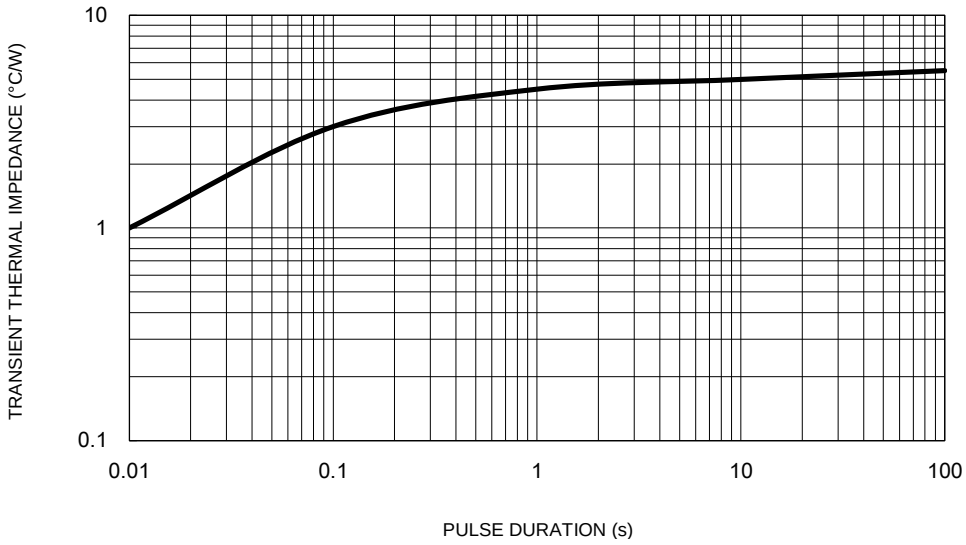
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

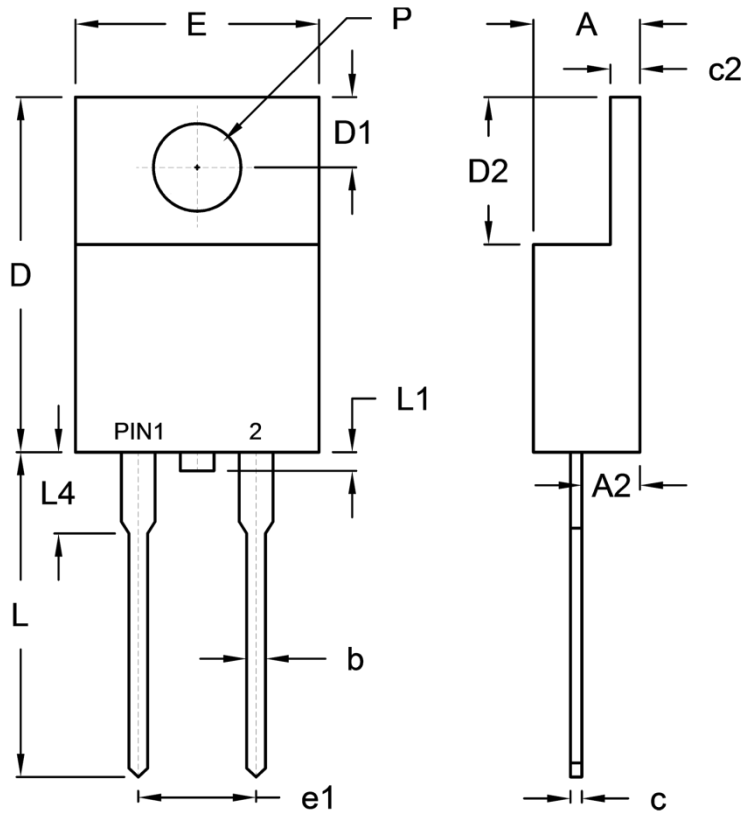
(T_A = 25°C unless otherwise noted)

Fig.6 Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS

TO-220AC



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	4.42	4.76	0.174	0.187
A2	2.20	2.80	0.087	0.110
b	0.68	0.94	0.027	0.037
c	0.35	0.64	0.014	0.025
c2	1.14	1.40	0.045	0.055
D	14.60	16.00	0.575	0.630
D1	2.62	3.44	0.103	0.135
D2	5.84	6.86	0.230	0.270
E	-	10.50	-	0.413
e1	4.95	5.20	0.195	0.205
L	13.19	14.79	0.519	0.582
L1	0.00	1.60	0.000	0.063
L4	2.80	4.20	0.110	0.165
P	3.54	4.00	0.139	0.157

MARKING DIAGRAM

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

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