20A, 45V 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: R-6
- 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: 1.60g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	20	A
V_{RRM}	45	V
I_{FSM}	275	A
$T_{J\ MAX}$	200	°C
Package	R-6	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

R-6

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**SK20H45**	**UNIT**
Marking code on the device		SK20H45	
Repetitive peak reverse voltage	V_{RRM}	45	V
Reverse voltage, total rms value	$V_{R(RMS)}$	31	V
Forward current	I_F	20	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	275	A
Junction temperature in the DC forward mode	T_J	-55 to +200	°C
Storage temperature	T_{STG}	-55 to +175	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	6	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 20A, T_J = 25°C	V_F	-	0.55	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	500	μA
	T_J = 100°C		-	50	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE(1)	PACKAGE	PACKING
SK20H45	R-6	1,000 / Tape & Reel
SK20H45 A0G	R-6	700 / Ammo box
SK20H45H	R-6	1,000 / Tape & Reel
SK20H45HA0G	R-6	700 / Ammo box

Notes:

1. “H” means AEC-Q101 qualified

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

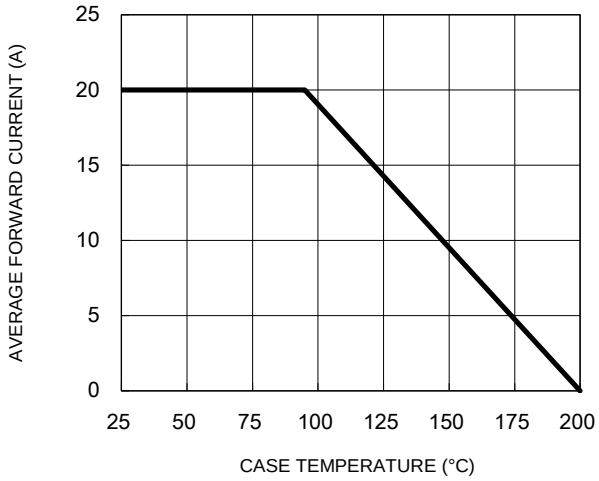


Fig.2 Typical Junction Capacitance

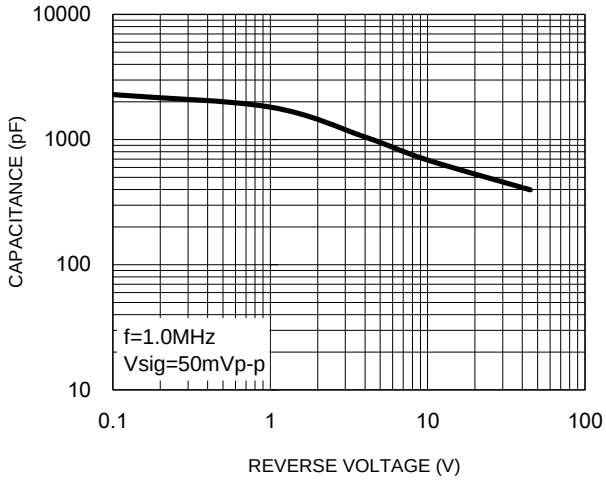


Fig.3 Typical Reverse Characteristics

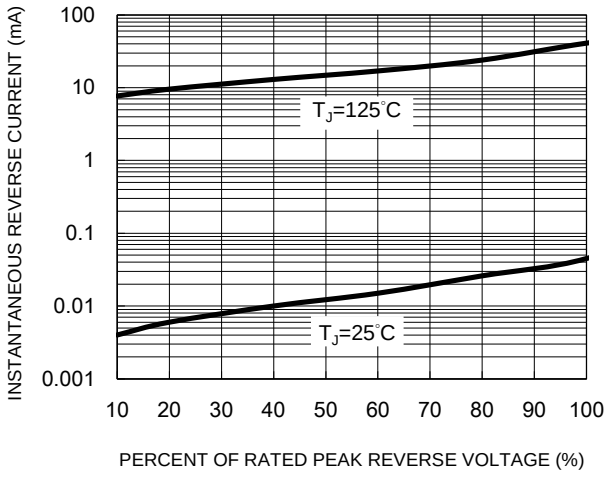


Fig.4 Typical Forward Characteristics

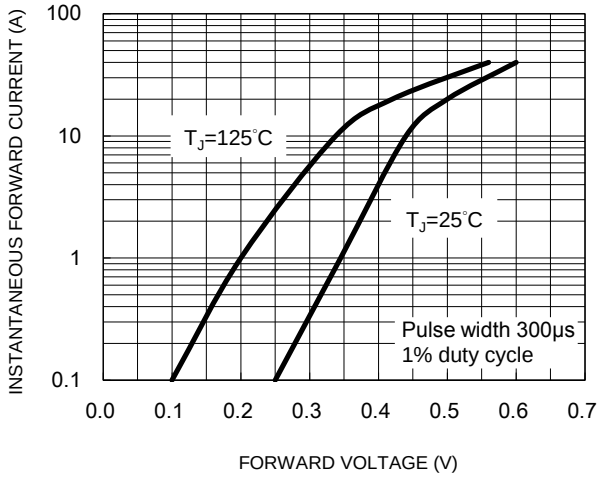
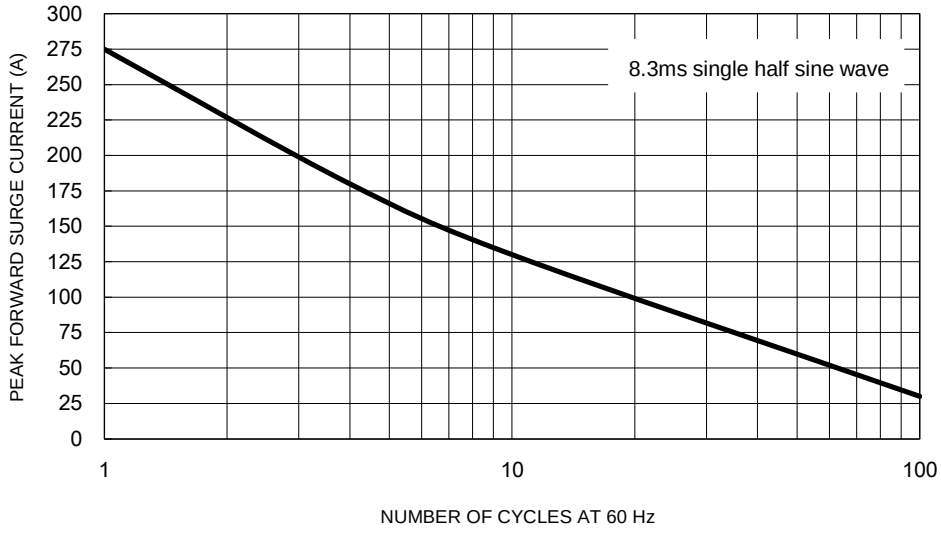
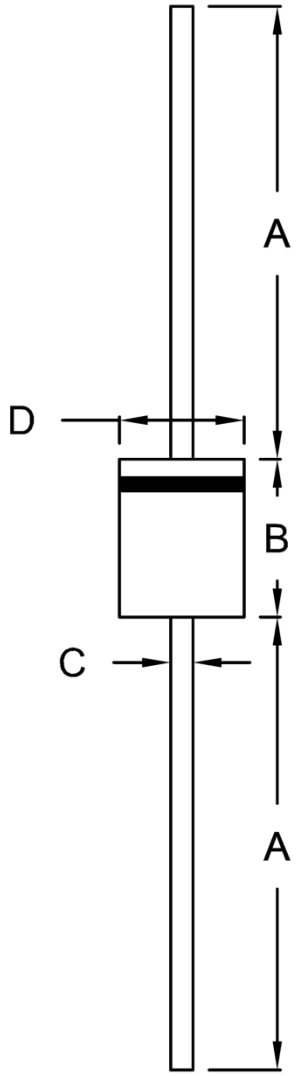


Fig.5 Maximum Non-Repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

R-6



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.60	9.10	0.339	0.358
C	1.20	1.30	0.047	0.051
D	6.80	7.20	0.268	0.283

MARKING DIAGRAM

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

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