

## 10A, 20V - 200V Dual Common Cathode Schottky Rectifier

### FEATURES

- Low power loss, high efficiency
- Guard ring for over-voltage protection
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

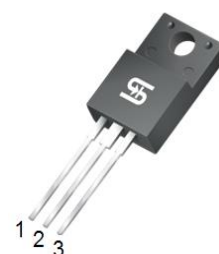
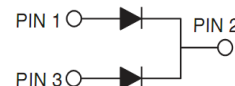
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Monitor
- TV

### MECHANICAL DATA

- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Part no. with suffix "H" means AEC-Q101 qualified
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Mounting torque: 0.56 Nm max
- Weight: 1.7 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	10	A
$V_{RRM}$	20 - 200	V
$I_{FSM}$	120	A
Package	ITO-220AB	
Configuration	Dual die	


**ITO-220AB**


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

PARAMETER	SYMBOL	SRF 1020	SRF 1030	SRF 1040	SRF 1050	SRF 1060	SRF 1090	SRF 10100	SRF 10150	SRF 10200	UNIT
Marking code on the device		SRF 1020	SRF 1030	SRF 1040	SRF 1050	SRF 1060	SRF 1090	SRF 10100	SRF 10150	SRF 10200	
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
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	90	100	150	200	V
Forward current	$I_{F(AV)}$	10									A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	120									A
Junction temperature	$T_J$	- 55 to +125				- 55 to +150					$^\circ\text{C}$
Storage temperature	$T_{STG}$	- 55 to +150									$^\circ\text{C}$

<b>THERMAL PERFORMANCE</b>				
<b>PARAMETER</b>		<b>SYMBOL</b>	<b>LIMIT</b>	<b>UNIT</b>
Junction-to-case thermal resistance	SRF1020 SRF1030 SRF1040 SRF1050 SRF1060	$R_{\theta JC}$	3.5	$^{\circ}C/W$
	SRF1090 SRF10100 SRF10150 SRF10200		4	$^{\circ}C/W$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^{\circ}C$ unless otherwise noted)						
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	SRF1020 SRF1030 SRF1040	$I_F = 5A, T_J = 25^{\circ}C$	$V_F$	-	0.55	V
	SRF1050 SRF1060			-	0.70	V
	SRF1090 SRF10100			-	0.90	V
	SRF10150 SRF10200			-	1.00	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SRF1020 SRF1030 SRF1040 SRF1050 SRF1060	$T_J = 25^{\circ}C$	$I_R$	-	0.5	mA
	SRF1090 SRF10100 SRF10150 SRF10200			-	0.1	mA
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SRF1020 SRF1030 SRF1040	$T_J = 100^{\circ}C$	$I_R$	-	15	mA
	SRF1050 SRF1060			-	10	mA
	SRF1090 SRF10100 SRF10150 SRF10200			-	-	mA

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SRF1020 SRF1030 SRF1040 SRF1050 SRF1060	$T_J = 125^\circ\text{C}$	$I_R$	-	-	mA
	SRF1090 SRF10100 SRF10150 SRF10200			-	5	mA

**Notes:**

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

<b>ORDERING INFORMATION</b>					
<b>PART NO.</b>	<b>PART NO. SUFFIX</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
SRF10xx (Note 1)	H	C0	G	ITO-220AB	50 / Tube

**Note:**

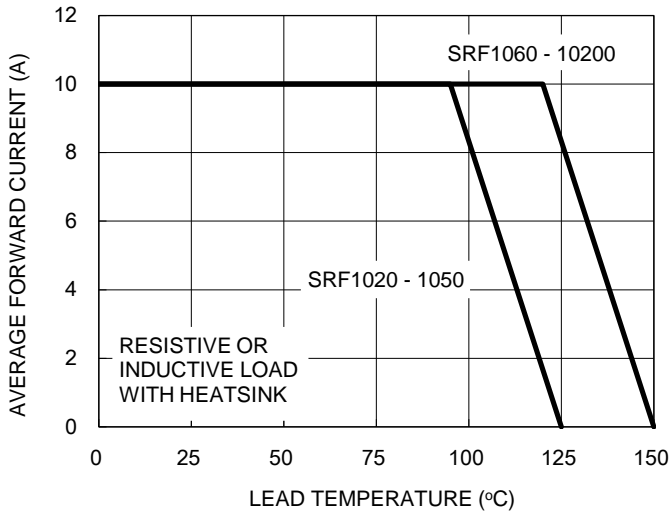
1. "xx" defines voltage from 20V (SRF1020) to 200V (SRF10200)

<b>EXAMPLE P/N</b>					
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PART NO. SUFFIX</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
SRF1020HC0G	SRF1020	H	C0	G	AEC-Q101 qualified Green compound

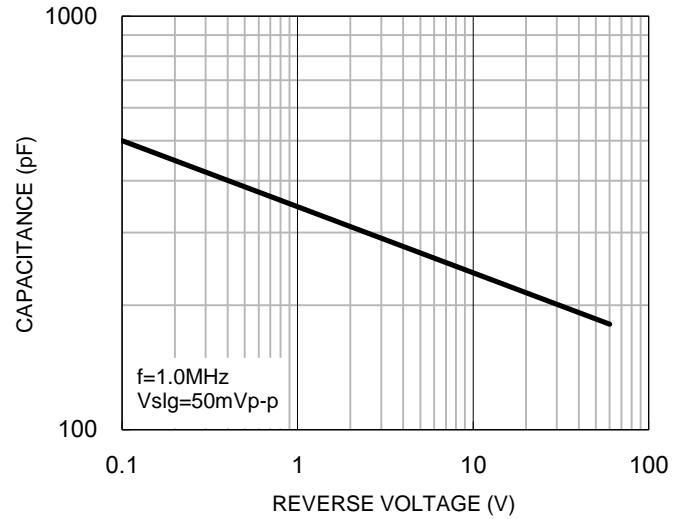
**CHARACTERISTICS CURVES**

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

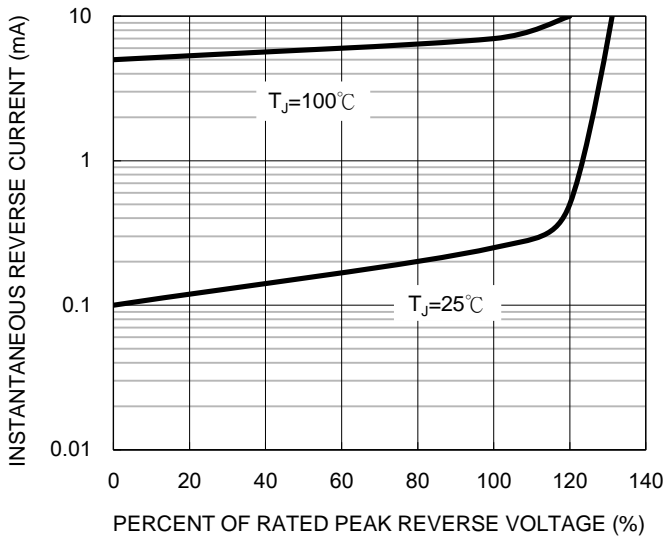
**Fig.1 Forward Current Derating Curve**



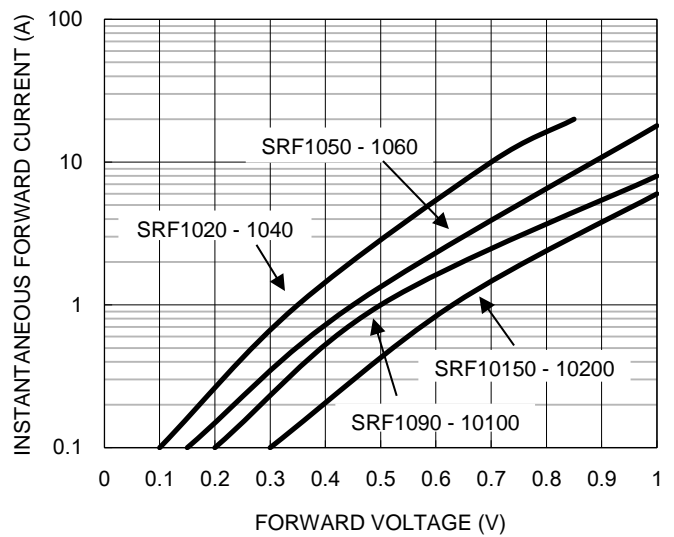
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

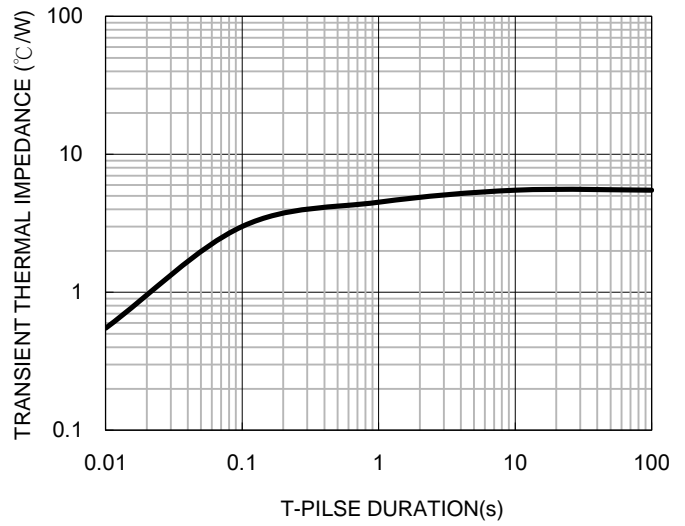
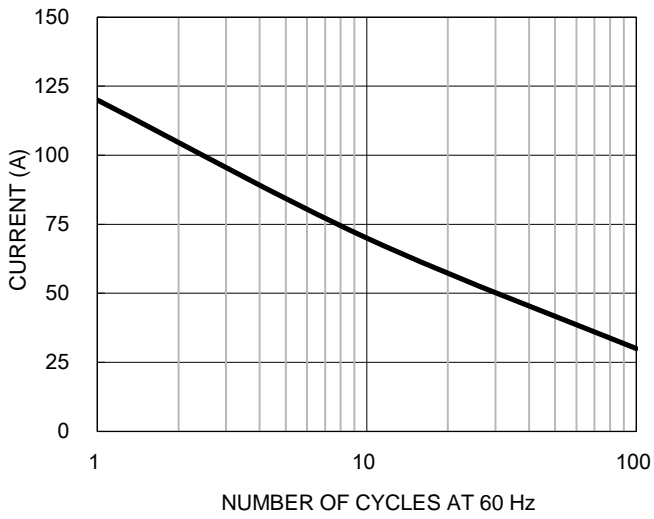


**CHARACTERISTICS CURVES**

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

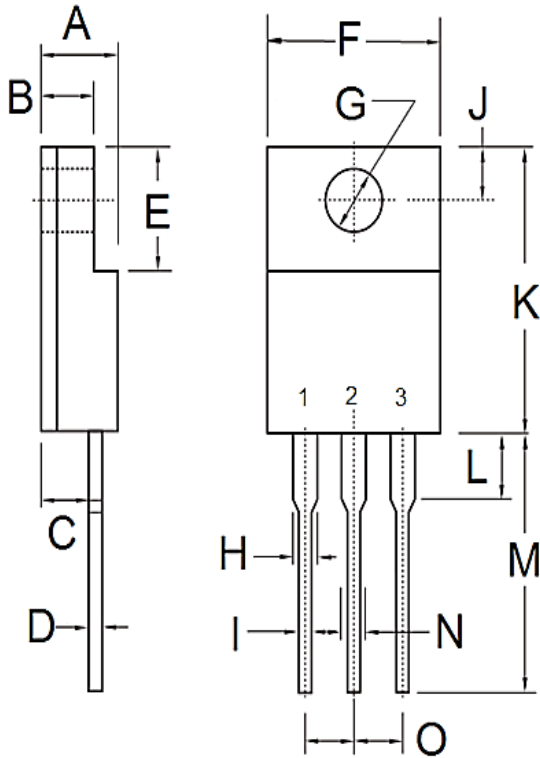
**Fig.5 Maximum Non-repetitive Forward Surge Current**

**Fig.6 Typical Transient Thermal Characteristics**



**PACKAGE OUTLINE DIMENSIONS**

ITO-220AB



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105

**MARKING DIAGRAM**



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

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