

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

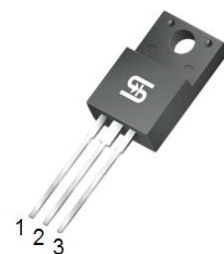
APPLICATIONS

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

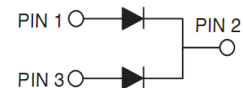
MECHANICAL DATA

- 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°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					°C
Storage temperature	T_{STG}	- 55 to +150									°C	

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

ELECTRICAL SPECIFICATIONS ($T_A = 25^{\circ}C$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	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 ⁽²⁾	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 ⁽²⁾	SRF1020 SRF1030 SRF1040	$T_J = 100^{\circ}C$	I_R	-	15	mA
	SRF1050 SRF1060			-	10	mA
	SRF1090 SRF10100 SRF10150 SRF10200			-	-	mA

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Reverse current @ rated V_R per diode ⁽²⁾	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

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

Note:

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

EXAMPLE P/N					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
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

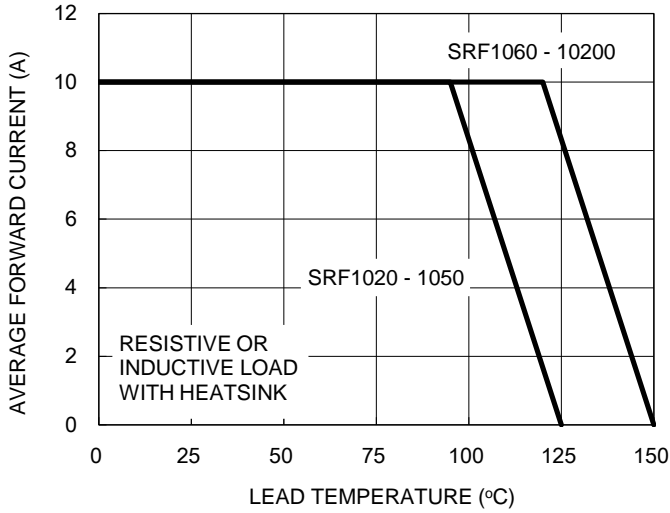


Fig.2 Typical Junction Capacitance

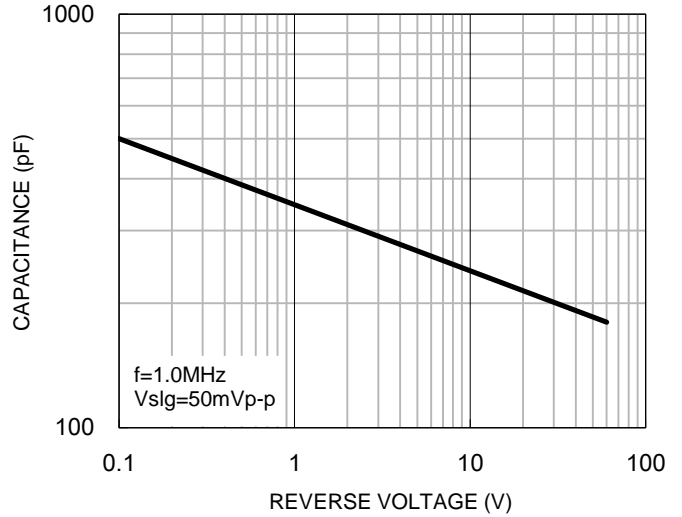


Fig.3 Typical Reverse Characteristics

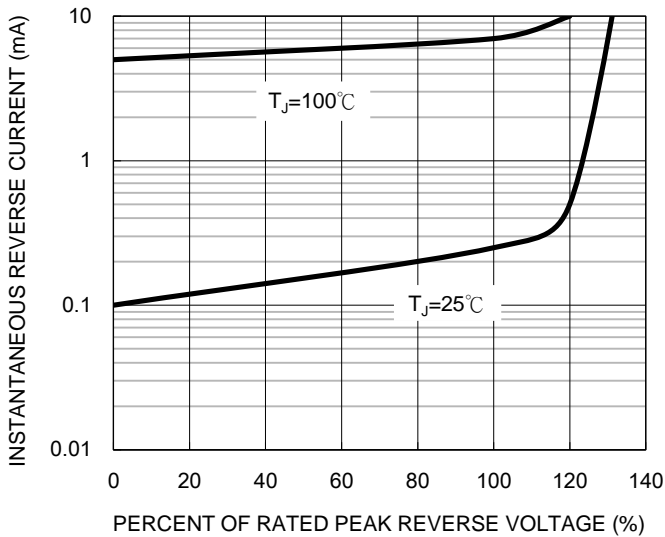
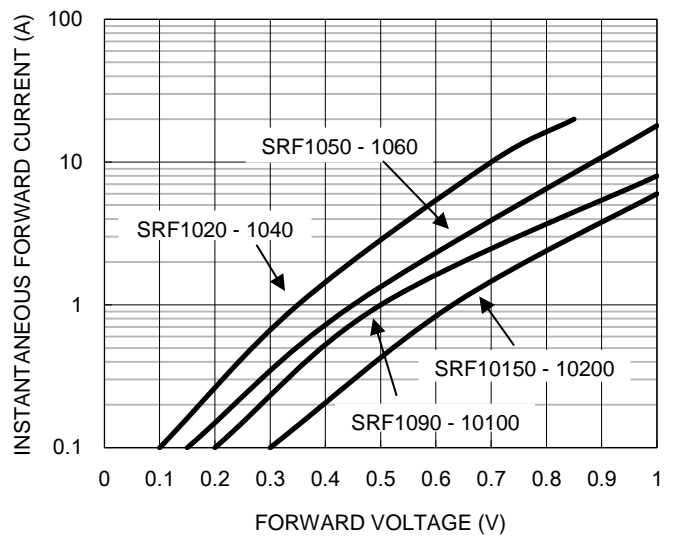


Fig.4 Typical Forward Characteristics

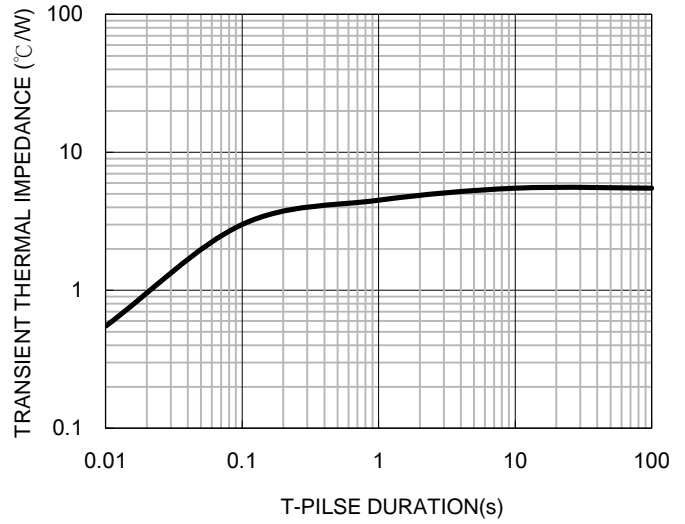
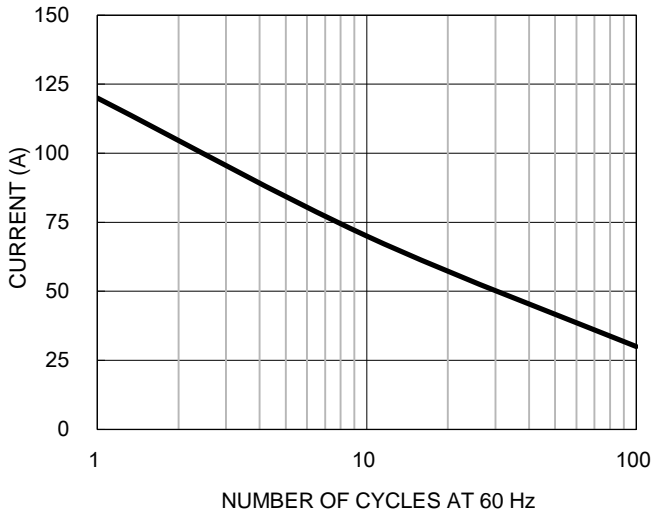


CHARACTERISTICS CURVES

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

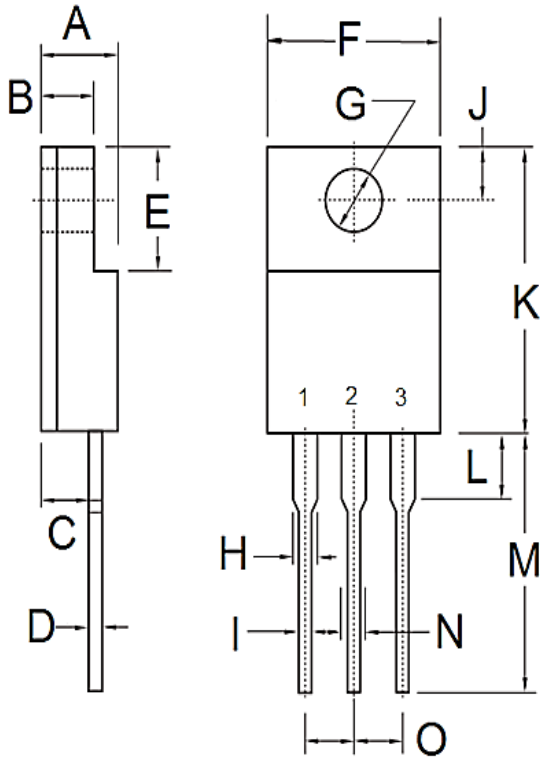
Fig.5 Maximum Non-repetitive Forward Surge Current

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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