

16A, 20V - 100V Schottky Barrier Surface Mount Rectifier

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- 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-263AB (D²PAK)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.37g (approximately)

KEY PARAMETERS				
PARAMETER	VALUE	UNIT		
I _F	16	Α		
V_{RRM}	20 - 100	V		
I _{FSM}	150	Α		
T _{J MAX}	125, 150	°C		
Package	TO-263AB (D ² PAK)			
Configuration	Dual dies			

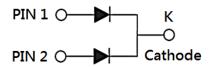








TO-263AB (D²PAK)



	SYMBOL	SRS	SRS	SRS	SRS	SRS	SRS	SRS	
PARAMETER		1620	1630	1640	1650	1660	1690	16100	UNIT
Marking code on the device		SRS 1620	SRS 1630	SRS 1640	SRS 1650	SRS 1660	SRS 1690	SRS 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					Α		
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I _{FSM}	150					А		
Junction temperature	TJ	-55 to +125 -55 to +150				°C			
Storage temperature	T _{STG}	-55 to +150			°C				

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THERMAL PERFORMANCE				
PARAMETER	SYMBOL	TYP	UNIT	
Junction-to-case thermal resistance	R _{eJC}	2	°C/W	

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
	SRS1620 SRS1630 SRS1640			-	0.55	٧
Forward voltage per diode ⁽¹⁾	SRS1650 SRS1660	$I_F = 8A, T_J = 25^{\circ}C$	V _F	-	0.70	V
	SRS1690 SRS16100			ı	0.90	V
	SRS1620 SRS1630 SRS1640 SRS1650 SRS1660	T _J = 25°C		-	500	μA
Reverse current @ rated V _R per diode ⁽²⁾	SRS1690 SRS16100			-	100	μA
	SRS1620 SRS1630 SRS1640			-	15	mA
	SRS1650 SRS1660	T _J = 100°C	I _R	-	10	mA
	SRS1690 SRS16100			-	-	mA
	SRS1620 SRS1630 SRS1640 SRS1650 SRS1660	T _J = 125°C		-	-	mA
	SRS1690 SRS16100			-	5	mA

Notes:

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

ORDERING INFORMATION				
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING		
SRS16x	TO-263AB (D ² PAK)	800 / Tape & Reel		

Notes:

1. "x" defines voltage from 20V(SRS1620) to 100V(SRS16100)



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

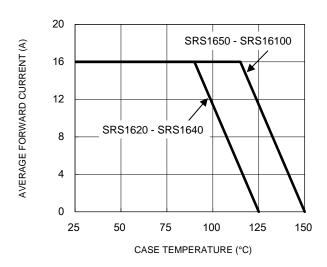


Fig.3 Typical Reverse Characteristics

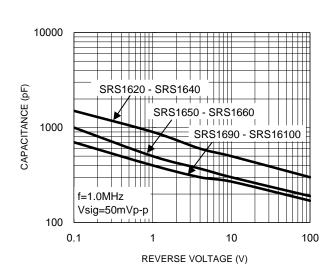
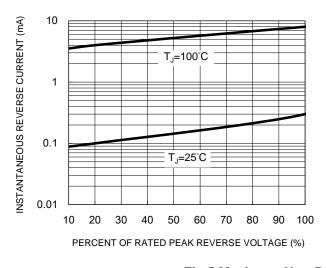


Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics



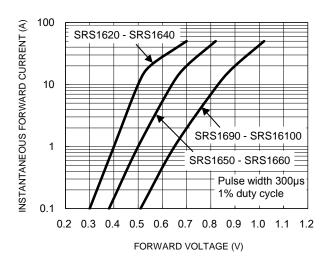
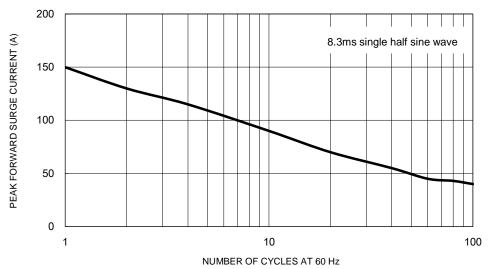


Fig.5 Maximum Non-Repetitive Forward Surge Current



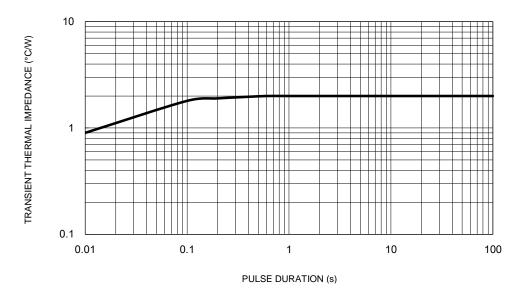
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CHARACTERISTICS CURVES

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

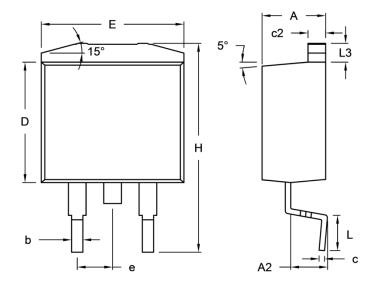
Fig.6 Typical Transient Thermal Impedance





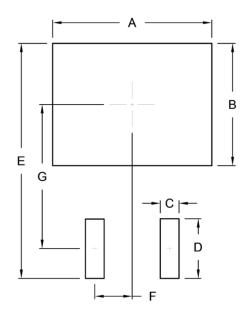
PACKAGE OUTLINE DIMENSIONS

TO-263AB (D²PAK)



DIM	DIM. Unit (mm)		Unit (inch)	
DIW.	Min.	Max.	Min.	Max.	
Α	4.44	4.70	0.175	0.185	
A2	2.03	2.79	0.080	0.110	
b	0.68	0.94	0.027	0.037	
С	0.36	0.53	0.014	0.021	
c2	1.14	1.40	0.045	0.055	
D	8.25	9.25	0.325	0.364	
Е	-	10.50	-	0.413	
е	2.41	2.67	0.095	0.105	
Н	14.60	15.88	0.575	0.625	
L	2.29	2.79	0.090	0.110	
L3	1.14	1.40	0.045	0.055	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
Α	10.80	0.425
В	8.30	0.327
С	1.27	0.050
D	4.05	0.159
E	15.95	0.628
F	2.54	0.100
G	9.775	0.385

MARKING DIAGRAM



P/N = Marking Code G = Green Compound

YWW = Date Code F = Factory Code



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