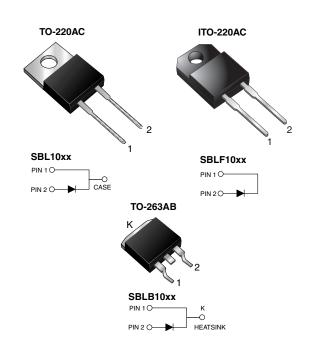


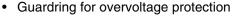
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Schottky Barrier Rectifier



PRIMARY CHARACTERISTICS				
I _{F(AV)} 10 A				
V _{RRM}	30 V, 40 V			
I _{FSM}	250 A			
V _F	0.60 V			
T _J max.	125 °C			

FEATURES





Low forward voltage drop

· High forward surge capability

· High frequency operation

RoHS

 Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)

 Solder dip 260 °C, 40 s (for TO-220AC and ITO-220AC package)

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters and polarity protection application.

MECHANICAL DATA

Case: TO-220AC, ITO-220AC, TO-263AB Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T _C = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MBOL SBL1030 SBL1040		UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	30 40		٧	
Working peak reverse voltage	V _{RWM}	21	28	٧	
Maximum DC blocking voltage	V_{DC}	30	40	V	
Maximum average forward rectified current at $T_C = 110$ °C	I _{F(AV)}	10		Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	250		А	
Operating junction and storage temperature range	T _J , T _{STG}	- 40 to + 125		°C	
Isolation voltage (ITO-220AC only) from terminal to heatsink t = 1 min	V _{AC}	1500		V	

SBL(F,B)1030 & SBL(F,B)1040

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ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		TEST CONDITIONS		SYMBOL	VALUE	UNIT
Maximum instantaneous forward voltage (1)	10 A		V _F	0.6	V		
Maximum instantaneous reverse current at DC blocking voltage ⁽¹⁾		T _C = 25 °C T _C = 100 °C	I _R	1.0 50	mA		

Note:

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SBL	SBLF	SBLB	UNIT
Typical thermal resistance from junction to case per leg	$R_{ hetaJC}$	2.0	5.0	2.0	°C/W

ORDERING INFORMATION (Example)						
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
TO-220AC	SBL1030-E3/45	1.80	45	50/tube	Tube	
ITO-220AC	SBLF1030-E3/45	1.94	45	50/tube	Tube	
TO-263AB	SBLB1030-E3/45	1.33	45	50/tube	Tube	
TO-263AB	SBLB1030-E3/81	1.33	81	800/reel	Tape and reel	
TO-220AC	SBL1030HE3/45 ⁽¹⁾	1.80	45	50/tube	Tube	
ITO-220AC	SBLF1030HE3/45 (1)	1.94	45	50/tube	Tube	
TO-263AB	SBLB1030HE3/45 (1)	1.33	45	50/tube	Tube	
TO-263AB	SBLB1030HE3/81 (1)	1.33	81	800/reel	Tape and reel	

Note:

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

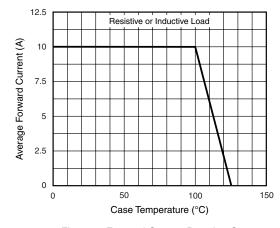


Figure 1. Forward Current Derating Curve

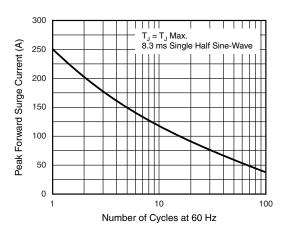


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

⁽¹⁾ Automotive grade AEC Q101 qualified



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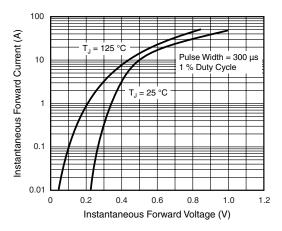


Figure 3. Typical Instantaneous Forward Characteristics

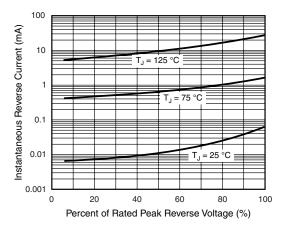


Figure 4. Typical Reverse Characteristics

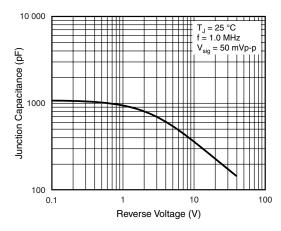


Figure 5. Typical Junction Capacitance

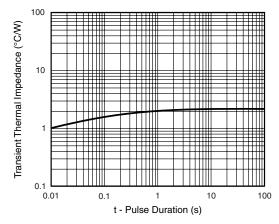


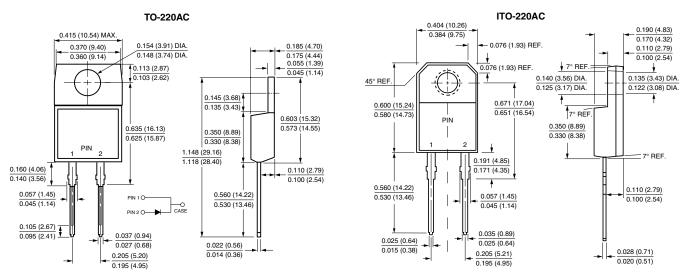
Figure 6. Typical Transient Thermal Impedance

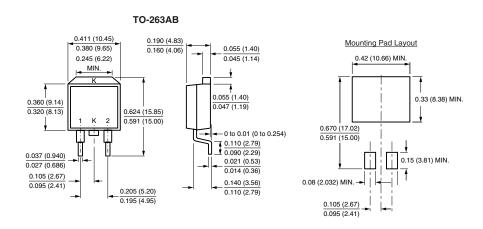
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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