

## Schottky Barrier Diode

### BKR400AC10

$I_{O(AV)} = 400A$ ,  $V_{RRM} = 100V$ ,  $V_{FM} = 0.68V$

SanRex outstanding metal barrier technology allows **BKR400AC10** Schottky Barrier Diode Module to feature a very low forward voltage drop. This device also has low leakage current, low thermal resistance and improved avalanche energy rating. These benefits make this design an extremely reliable and efficient device for use in wide variety of applications requiring high power and low conduction loss.

#### Features

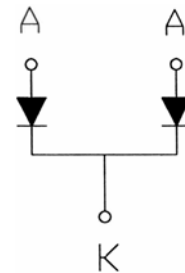
- \* Very Low Forward Voltage Drop
- \* Avalanche Energy Rated
- \* High Surge Current
- \* RoHS Compliance

#### Typical Applications

- \* Rectifier in Switch Mode Power Supplies (SMPS)
- \* Power Supplies for Plating
- \* Uninterruptible Power Supplies (UPS)
- \* Free Wheeling Diode in Converters



Non-isolated TO-244 (1/4-20 Screw)



Internal schematic diagram

#### < Maximum Ratings >

$T_j = 25^\circ C$  (unless otherwise noted)

Symbol	Item	Conditions	Ratings	Unit	
$V_{RRM}$	Repetitive Peak Reverse Voltage		100	V	
$I_{O(AV)}$	Average Forward Current	50% duty cycle , $T_c = 112^\circ C$ , rectangular wave form	400	A	
$I_{FSM}$	Surge Forward Current (Per leg)	1/2 cycle, 50/60Hz, Peak value, non-repetitive	3300/3620	A	
$I^2 t$	$I^2 t$ (for fusing) (Per leg)	Value for one cycle surge current	54450	A <sup>2</sup> s	
$E_{AS}$	Single Pulse Avalanche Energy (Per leg)	$I_{AS} = 30A$ , $L = 160\mu H$	15	mJ	
$T_j$	Operating Junction Temperature		-40 to +150	$^\circ C$	
$T_{stg}$	Storage Temperature		-40 to +125	$^\circ C$	
	Mounting Torque	Mounting (M6)	Recommended 2.5-3.9	4.7	N·m
		Mounting (M4)	Recommended 1.0-1.4	1.5	
		Terminal (M6)	Recommended 2.5-3.9	4.7	
	Mass	Typical Value	78	g	

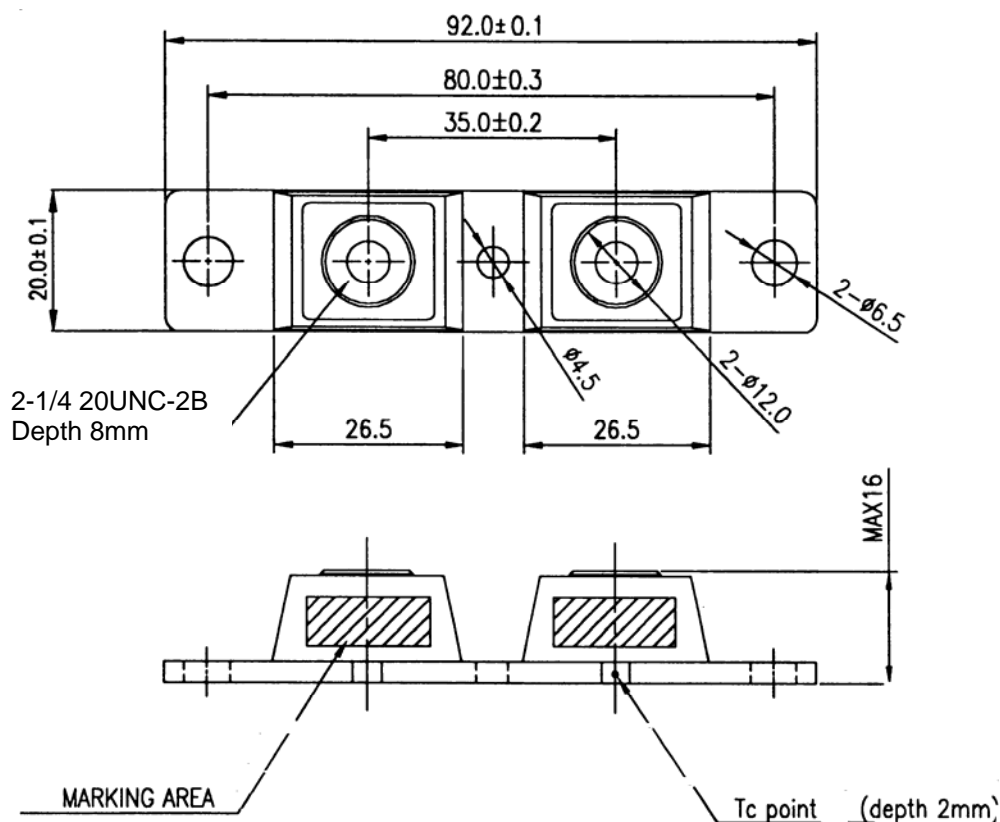
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< Electrical Characteristics >

T<sub>j</sub> = 25 °C (unless otherwise noted)

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I <sub>RRM</sub>	Repetitive Peak Reverse Current	V <sub>D</sub> = 100V, T <sub>j</sub> = 125°C, Pulse width < 300µs, Duty < 2%			40	mA
V <sub>FM</sub>	Forward Voltage Drop (Per leg)	I <sub>F</sub> = 200A, Inst. measurement			0.82	V
		I <sub>F</sub> = 400A, Inst. measurement			0.93	
		I <sub>F</sub> = 200A, T <sub>j</sub> = 125°C Inst. measurement			0.68	
		I <sub>F</sub> = 400A, T <sub>j</sub> = 125°C Inst. measurement			0.78	
R <sub>th(j-c)</sub>	Thermal Resistance (Per leg)	Junction to case			0.2	°C/W



- \* Note : 1. Dimensions in millimeters  
 2. Terminal type  
 BKR400AB series - M6  
 BKR400AC series - 1/4-20