

# Power Schottky Rectifier

## ISOPLUS220™

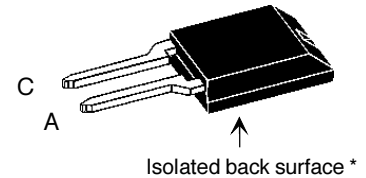
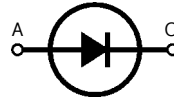
### Electrically Isolated Back Surface

$$I_{FAV} = 20 \text{ A}$$

$$V_{RRM} = 100 \text{ V}$$

$$V_F = 0.65 \text{ V}$$

$V_{RSM}$	$V_{RRM}$	Type
V	V	
100	100	DSS 20-01AC



\* Patent pending

Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$		35	A
$I_{FAV}$	$T_C = 140^\circ\text{C}$ ; rectangular, $d = 0.5$	20	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	120	A
$E_{AS}$	$I_{AS} = 8 \text{ A}$ ; $L = 180 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	7	mJ
$I_{AR}$	$V_A = 1.5 V_{RRM}$ typical; $f = 10 \text{ kHz}$ ; repetitive	0.8	A
$(dv/dt)_{cr}$		5000	V/ $\mu\text{s}$
$T_{VJ}$		-55...+175	$^\circ\text{C}$
$T_{VJM}$		175	$^\circ\text{C}$
$T_{stg}$		-55...+150	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	90	W
$V_{ISOL}$	50/60Hz RMS; $I_{ISOL} < 1 \text{ mA}$	2500	V~
$F_C$	Mounting force	11... 65 / 2.4 ...11	N/lb
Weight	typical	3	g

#### Features

- Silicon chip on Direct-Copper-Bond substrate
    - High power dissipation
    - Isolated mounting surface
    - 2500V electrical isolation
  - Low cathode to tab capacitance (<35pF)
- International standard package  
Very low  $V_F$   
Extremely low switching losses  
Low  $I_{RM}$ -values  
Epoxy meets UL 94V-0

#### Applications

Rectifiers in switch mode power supplies (SMPS)  
Free wheeling diode in low voltage converters

#### Advantages

High reliability circuit operation  
Low voltage peaks for reduced protection circuits  
Low noise switching  
Low losses

Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R$ ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$		300 $\mu\text{A}$
	$T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$		2.5 mA
$V_F$ ②	$I_F = 10 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.65 V
	$I_F = 10 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		0.80 V
	$I_F = 20 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.76 V
$R_{thJC}$		0.6	1.7 K/W
$R_{thCH}$			K/W

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %  
② Pulse Width = 300  $\mu\text{s}$ , Duty Cycle < 2.0 %

IXYS reserves the right to change limits, conditions and dimensions.

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**ISOPLUS220 OUTLINE**
