

# Power Schottky Rectifier

Non isolated

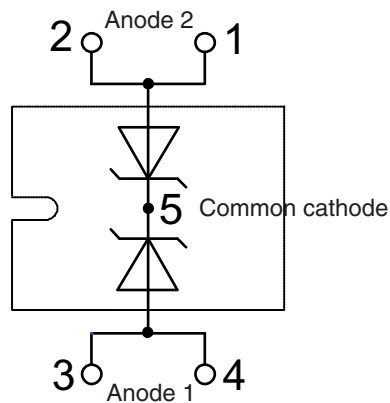
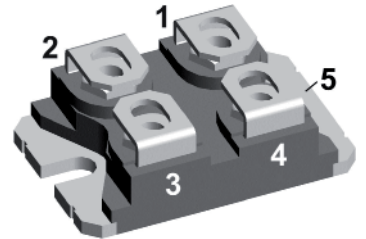
$$I_{FAVM} = 2x160 \text{ A}$$

$$V_{RRM} = 45 \text{ V}$$

$$V_F = 0.72 \text{ V}$$

Part number

**DSS 2x160-0045A**



### Features / Advantages:

- Very low  $V_F$
- Extremely low switching losses
- Low  $I_{RM}$ -values
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

### Applications:

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

### Package: SOT-227UI (minibloc)

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Base plate: Copper (non isolated)
- Advanced power cycling

### Disclaimer Notice

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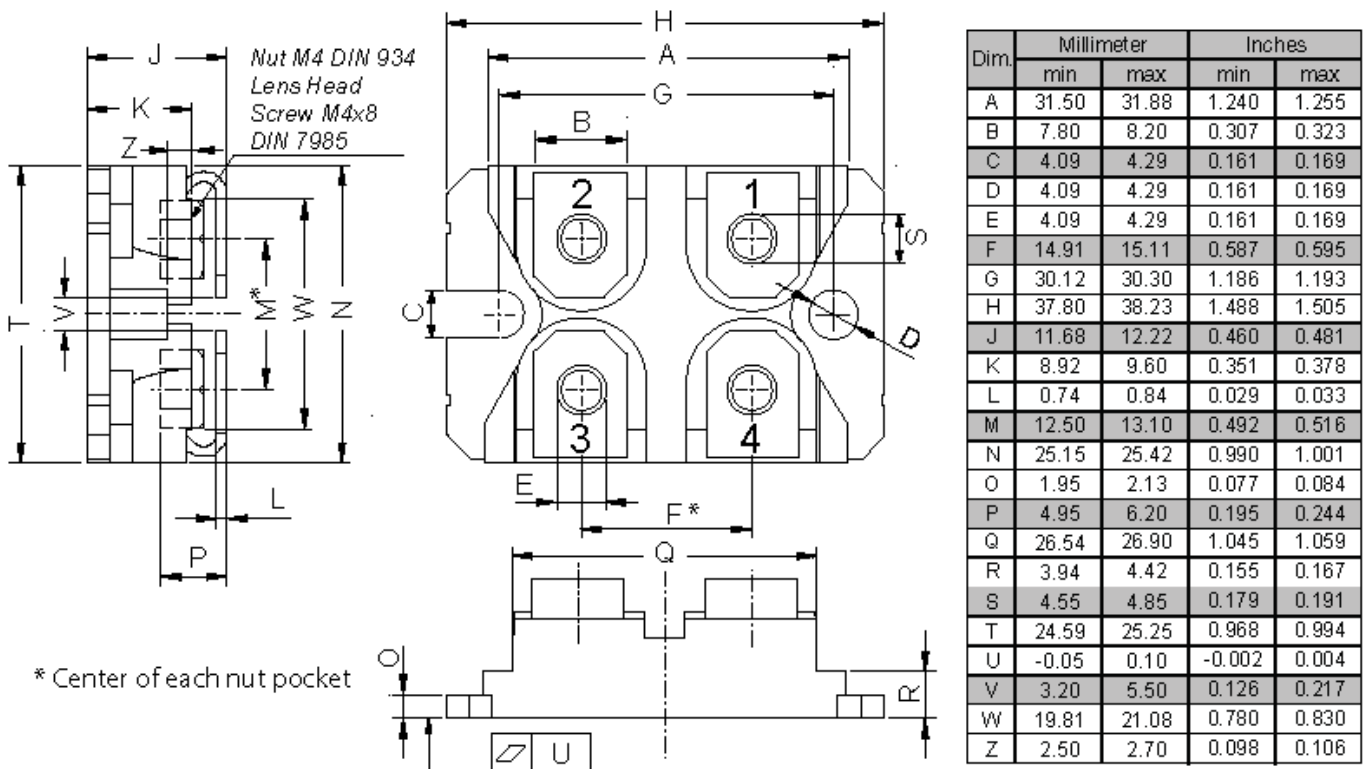
Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$		200	A
$I_{FAVM}$	$T_C = 100^\circ\text{C}$ ; rectangular, $d = 0.5$	160	A
$I_{FAVM}$	$T_C = 100^\circ\text{C}$ ; rectangular, $d = 0.5$ ; per device	320	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10$ ms (50 Hz), sine	1600	A
$E_{AS}$	$I_{AS} = 28$ A; $L = 180$ $\mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	112	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10$ kHz; repetitive	2.8	A
$(dv/dt)_{cr}$		1000	V/ $\mu\text{s}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	410	W

Symbol	Conditions	Characteristic Values		
		typ.	max.	
$I_R$ ①	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$		4	mA
	$V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$		40	mA
$V_F$	$I_F = 160$ A $T_{VJ} = 125^\circ\text{C}$		0.72	V
	$T_{VJ} = 25^\circ\text{C}$		0.80	V
	$I_F = 320$ A $T_{VJ} = 125^\circ\text{C}$		0.98	V
$R_{thJC}$			0.3	K/W
$R_{thCH}$		0.15		K/W

① Pulse Width = 5 ms, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

### Outlines SOT-227B (minibloc)

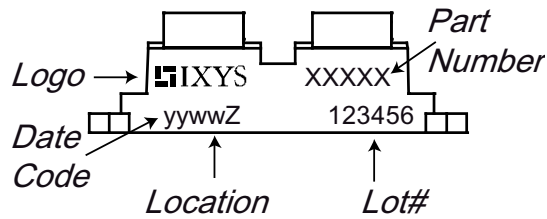


IXYS reserves the right to change limits, test conditions and dimensions.

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Package SOT-227B (minibloc)				Ratings			
Symbol	Definitions	Conditions	min.	typ.	max.		
$I_{RMS}$	RMS current	per terminal			150	A	
$T_{VJ}$	virtual junction temperature		-40		150	°C	
$T_{op}$	operation temperature		-40		125	°C	
$T_{stg}$	storage temperature		-40		150	°C	
<b>Weight</b>				30		g	
$M_D$	mounting torque		1.1		1.5	Nm	
$M_T$	terminal torque		1.1		1.5	Nm	
$d_{Spp/App}$	creepage distance on surface   striking distance through air	terminal to terminal	10.5	0.8		Nm	
$d_{Spb/Apb}$		terminal to backside	8.6	20		N	

### Product Marking



Ordering	Part Number	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DSS2x160-0045A	DSS2x160-0045A	Tube	10	DSS2x160-0045A

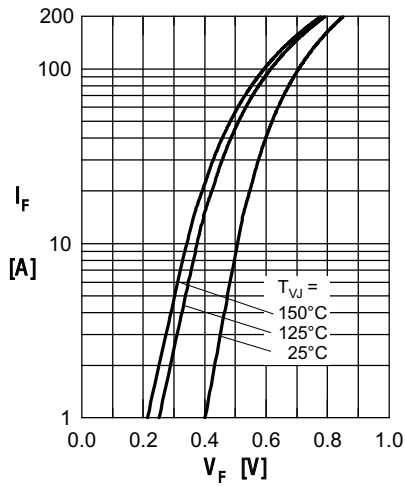
**Curves**


Fig. 1 Max. forward voltage drop characteristics

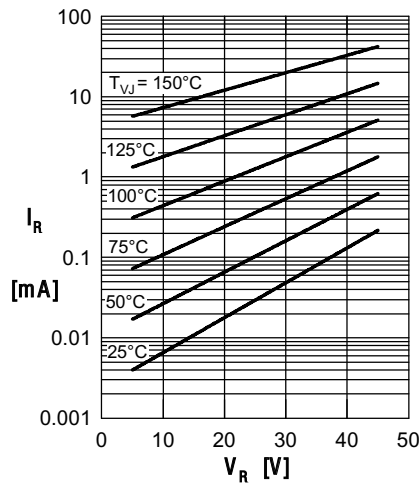
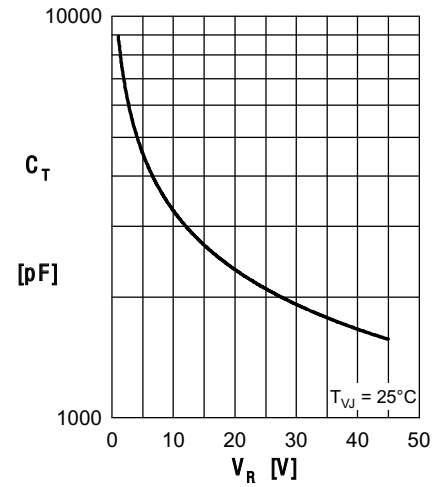
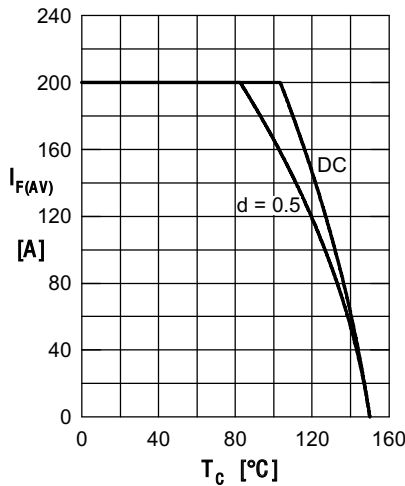
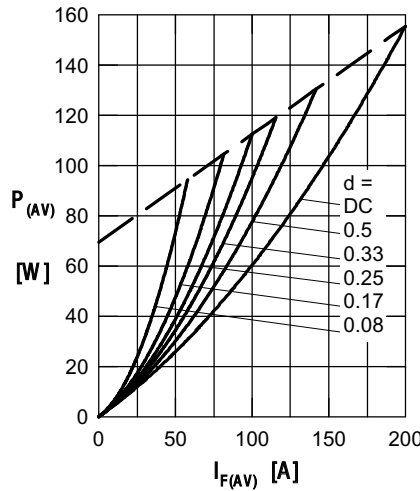

 Fig. 2 Typ. reverse current  $I_R$  vs. reverse voltage  $V_R$ 

 Fig. 3 Typ. junction capacitance  $C_T$  vs. reverse voltage  $V_R$ 

 Fig. 4 Average forward current  $I_{F(AV)}$  vs. case temp.  $T_C$ 


Fig. 5 Forward power loss characteristics

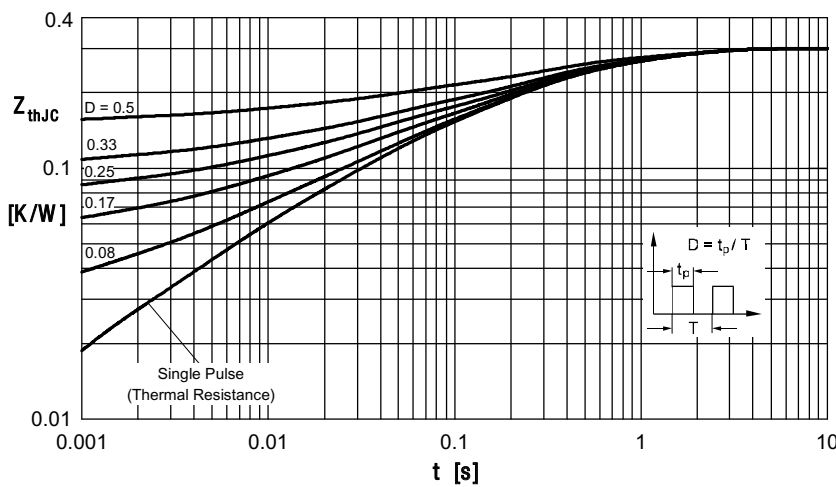


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode