

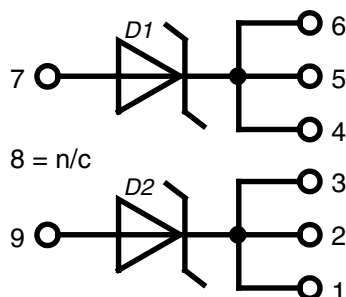
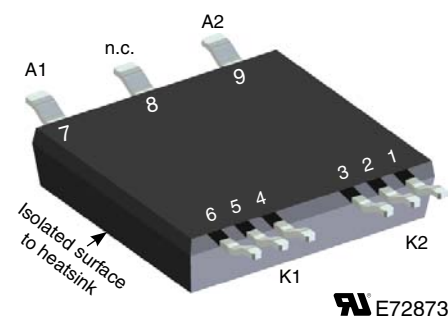
## Schottky Diode Gen<sup>2</sup>

$$\begin{aligned} V_{RRM} &= 200 \text{ V} \\ I_{DAV} &= 2 \times 65 \text{ A} \\ V_F &= 0.67 \text{ V} \end{aligned}$$

High Performance Schottky Diode  
Low Loss and Soft Recovery  
Parallel Legs

**Part number**  
DSA120X200LB

Preliminary data



### Features / Advantages:

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

### Applications:

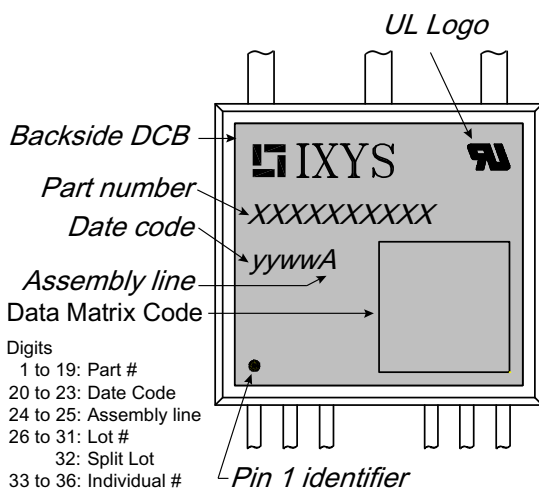
- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

### Package: SMPD

- Isolation Voltage: 3000 V~ ( $t = 1s$ )
- Industry convenient outline
- RoHS compliant
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

Schottky				Ratings		
Symbol	Definitions	Conditions	min.	typ.	max.	
$V_{RSM}$	max. non-repetitive rev. blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$			200	V
$V_{RRM}$	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$			200	V
$I_R$	reverse current, drain current	$V_R = 200\text{ V}$			1 5	mA mA
$V_F$	forward voltage drop	$I_F = 60\text{ A}$ $I_F = 120\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$		0.98 1.22	V V
		$I_F = 60\text{ A}$ $I_F = 120\text{ A}$	$T_{VJ} = 150^{\circ}\text{C}$		0.82 1.10	V V
$I_{FAV}$	average forward current	rectangular; $d = 0.5$	$T_C = 130^{\circ}\text{C}$		65	A
$V_{F0}$ $r_F$	threshold voltage slope resistance	} for power loss calculation only	$T_{VJ} = 175^{\circ}\text{C}$		0.51 2.7	V m $\Omega$
$R_{thJC}$	thermal resistance junction to case				0.8	K/W
$R_{thJH}$	thermal resistance case to heatsink	with thermal transfer paste (IXYS test setup)		1.05	1.25	K/W
$P_{tot}$	total power dissipation	$T_C = 25^{\circ}\text{C}$			185	W
$I_{FSM}$	max. forward surge current	$t = 10\text{ ms}$ ; (50 Hz), sine; $V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$		700	A
$C_J$		$V_R = 24\text{ V}$ ; $f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}\text{C}$		395	pF

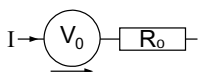
Package SMPD				Ratings		
Symbol	Definitions	Conditions	min.	typ.	max.	
$I_{RMS}$	RMS current	wide pin standard pin			100 60	A A
$T_{stg}$	storage temperature		-55		150	°C
$T_{op}$	operation temperature		-55		150	°C
$T_{vJ}$	virtual junction temperature		-55		175	°C
<b>Weight</b>					8.5	g
$F_C$	mounting force with clip		40		130	N
$d_{Spp/App}$	creepage distance on surface /	terminal to terminal	1.6			mm
$d_{Spb/Apb}$	striking distance through air	terminal to backside	4.0			mm
$V_{ISOL}$	isolation voltage	$t = 1$ second $t = 1$ minute		3000 2500		V V


**Part number**

- D = Diode
- S = Schottky Diode
- A = low  $V_F$
- 120 = Current Rating [A]
- X = Parallel legs
- 200 = Reverse Voltage [V]
- LB = SMPD-B

- Digits**
- 1 to 19: Part #
  - 20 to 23: Date Code
  - 24 to 25: Assembly line
  - 26 to 31: Lot #
  - 32: Split Lot
  - 33 to 36: Individual #

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DSA120X200LB-TRR	DSA120X200LB-TRR	Tape&Reel	200	
	DSA120X200LB	DSA120X200LB	Blister	45	512873

**Equivalent Circuits for Simulation** \*on die level  $T_{vJ} = 175^\circ\text{C}$ 


Schottky

$V_{0\max}$	threshold voltage	0.51	V
$R_{0\max}$	slope resistance *	2.7	mΩ

**Outlines SMPD**

