

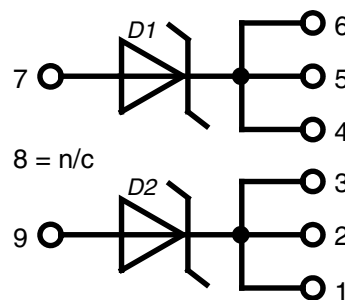
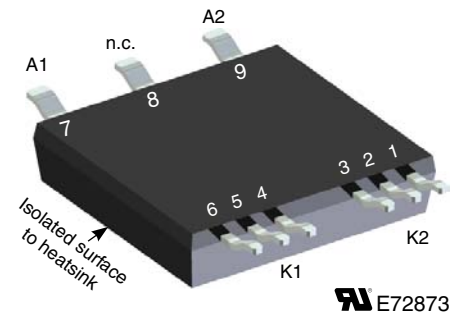
Schottky Diode Gen²

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

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:

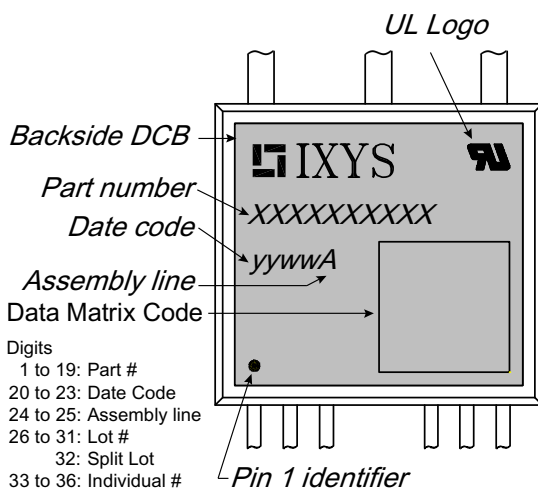
- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Package: SMPD

- Isolation Voltage: 3000 V~ ($t = 1\text{ s}$)
- 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	$T_{VJ} = 25^{\circ}C$			200	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			200	V
I_R	reverse current, drain current	$V_R = 200 V$			1 5	mA mA
V_F	forward voltage drop	$I_F = 60 A$ $I_F = 120 A$	$T_{VJ} = 25^{\circ}C$		0.98 1.22	V V
		$I_F = 60 A$ $I_F = 120 A$	$T_{VJ} = 150^{\circ}C$		0.82 1.10	V V
I_{FAV}	average forward current	rectangular; $d = 0.5$	$T_C = 130^{\circ}C$		65	A
V_{F0} r_F	threshold voltage slope resistance	} for power loss calculation only	$T_{VJ} = 175^{\circ}C$		0.51 2.7	V mΩ
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	$T_C = 25^{\circ}C$			185	W
I_{FSM}	max. forward surge current	$t = 10 ms$; (50 Hz), sine; $V_R = 0 V$	$T_{VJ} = 45^{\circ}C$		700	A
C_J		$V_R = 24 V$; $f = 1 MHz$	$T_{VJ} = 25^{\circ}C$		395	pF

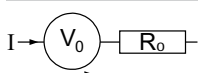
Package SMPD				Ratings		
Symbol	Definitions	Conditions	min.	typ.	max.	
I_{RMS}	RMS current	wide pin standard pin			100 60	A A
T_{stg}	storage temperature		-55		150	°C
T_{op}	operation temperature		-55		150	°C
T_{vJ}	virtual junction temperature		-55		175	°C
Weight					8.5	g
F_C	mounting force with clip		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 #

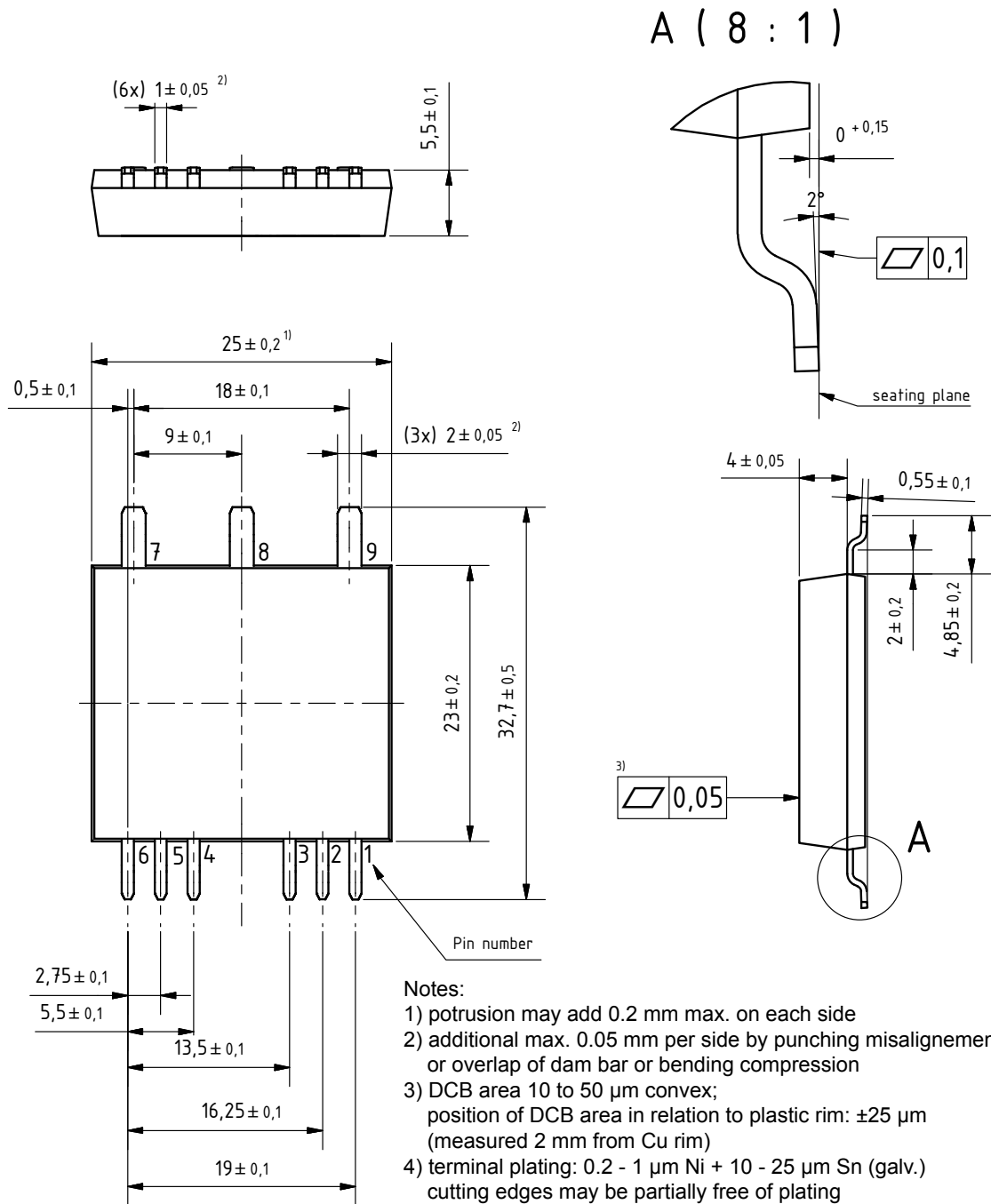
Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DSA120X200LB-TRR	DSA120X200LB-TRR	Tape&Reel	200	
	DSA120X200LB	DSA120X200LB	Blister	45	512873

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


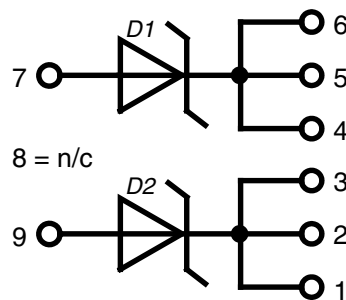
Schottky

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

Outlines SMPD



- Notes:
- 1) potrusion may add 0.2 mm max. on each side
 - 2) additional max. 0.05 mm per side by punching misalignment or overlap of dam bar or bending compression
 - 3) DCB area 10 to 50 µm convex; position of DCB area in relation to plastic rim: ±25 µm (measured 2 mm from Cu rim)
 - 4) terminal plating: 0.2 - 1 µm Ni + 10 - 25 µm Sn (galv.) cutting edges may be partially free of plating



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