



preliminary

Schottky Diode Gen ²

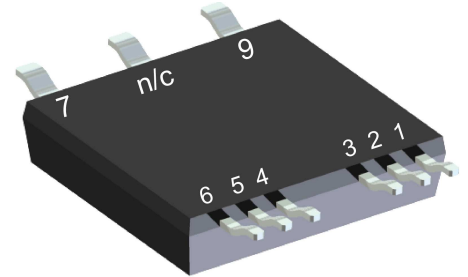
V_{RRM}	=	200 V
I_{FAV}	= 2x	65 A
V_F	=	0.82 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Parallel legs

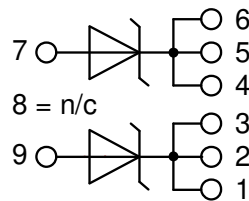
Part number

DSA120X200LB

Marking on Product: *DSA120X200LB*



Backside: isolated



Features / Advantages:

- Very low V_f
- Extremely low switching losses
- Low I_{rm} values
- Improved thermal behaviour
- High reliability circuit 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~
- Industry convenient outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

Disclaimer Notice

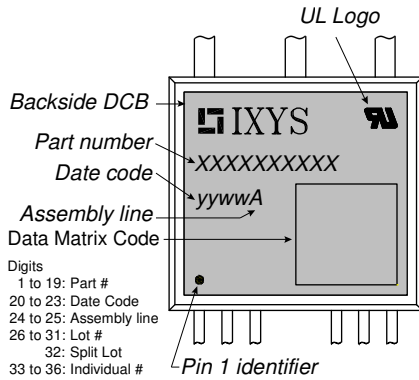
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Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage					200	V
V_{RRM}	max. repetitive reverse blocking voltage					200	V
I_R	reverse current, drain current	$V_R = 200\text{ V}$		$T_{VJ} = 25^\circ\text{C}$		1	mA
		$V_R = 200\text{ V}$		$T_{VJ} = 125^\circ\text{C}$		5	mA
V_F	forward voltage drop	$I_F = 60\text{ A}$		$T_{VJ} = 25^\circ\text{C}$		0.98	V
		$I_F = 120\text{ A}$				1.22	V
		$I_F = 60\text{ A}$		$T_{VJ} = 150^\circ\text{C}$		0.82	V
		$I_F = 120\text{ A}$				1.10	V
I_{FAV}	average forward current	$T_C = 130^\circ\text{C}$		$T_{VJ} = 175^\circ\text{C}$		65	A
		rectangular	$d = 0.5$				
V_{F0}	threshold voltage			$T_{VJ} = 175^\circ\text{C}$		0.51	V
r_F	slope resistance	} for power loss calculation only				2.7	mΩ
R_{thJC}	thermal resistance junction to case					0.8	K/W
R_{thCH}	thermal resistance case to heatsink				0.40		K/W
P_{tot}	total power dissipation			$T_C = 25^\circ\text{C}$		185	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$		$T_{VJ} = 45^\circ\text{C}$		700	A
C_J	junction capacitance	$V_R = 24\text{ V}$ $f = 1\text{ MHz}$		$T_{VJ} = 25^\circ\text{C}$		394	pF



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



Part description

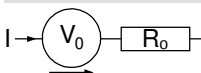
- D = Diode
- S = Schottky Diode
- A = low VF
- 120 = Current Rating [A]
- X = Parallel legs
- 200 = Reverse Voltage [V]
- LB = SMPD-B

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA120X200LB-TUB	DSA120X200LB	Tube	20	524773
Alternative	DSA120X200LB-TRR	DSA120X200LB	Tape & Reel	200	523115

Equivalent Circuits for Simulation

* on die level

$T_{VJ} = 175\text{ °C}$



Schottky

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