



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

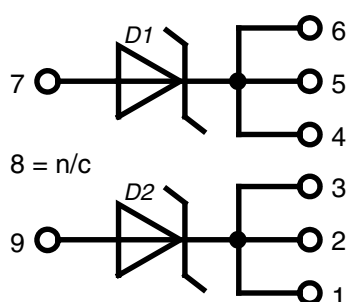
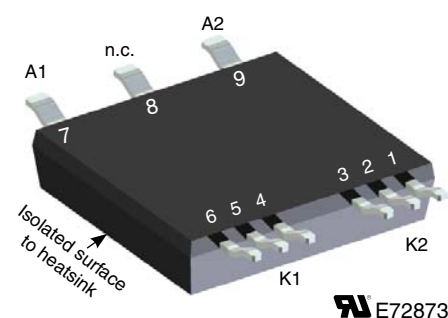


Schottky Diode Gen²

$$\begin{aligned} V_{RRM} &= 150 \text{ V} \\ I_{DAV} &= 2 \times 75 \text{ A} \\ V_F &= 0.80 \text{ V} \end{aligned}$$

High Performance Schottky Diode
Low Loss and Soft Recovery
Parallel Legs

Part number
DSA120X150LB



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:

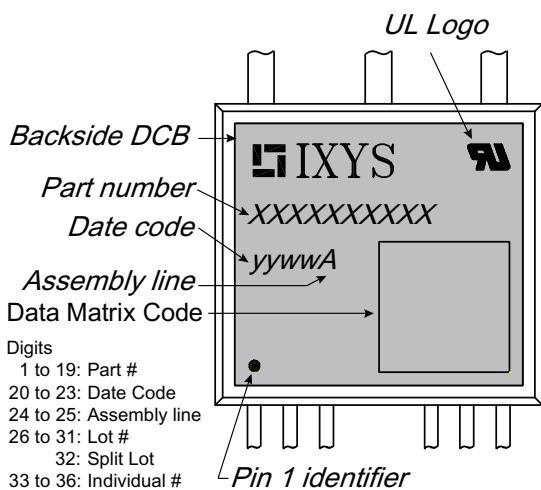
- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

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	$T_{VJ} = 25^{\circ}\text{C}$				150	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$				150	V
I_R	reverse current, drain current	$V_R = 150\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$			1 5	mA mA
V_F	forward voltage drop	$I_F = 60\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$			0.93	V
		$I_F = 120\text{ A}$				1.13	V
		$I_F = 60\text{ A}$	$T_{VJ} = 150^{\circ}\text{C}$			0.74	V
		$I_F = 120\text{ A}$				0.95	V
I_{FAV}	average forward current	rectangular; $d = 0.5$	$T_C = 135^{\circ}\text{C}$			75	A
V_{F0}	threshold voltage	} for power loss calculation only	$T_{VJ} = 175^{\circ}\text{C}$			0.51	V
r_F	slope resistance					1.3	m Ω
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	0.25	K/W
P_{tot}	total power dissipation	$T_C = 25^{\circ}\text{C}$				185	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$			700	A
C_J		$V_R = 24\text{ V}; f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}\text{C}$		480		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
						50/60 Hz; RMS; $I_{ISOL} < 1$ mA



Part number

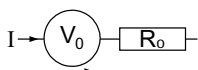
D = Diode
S = Schottky Diode
A = low V_F
120 = Current Rating [A]
X = Parallel legs
150 = Reverse Voltage [V]
LB = SMPD-B

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	DSA120X150LB-TRR	DSA120X150LB-TRR	Tape&Reel	200	510493
	DSA120X150LB	DSA120X150LB	Blister	45	510238

Equivalent Circuits for Simulation

*on die level

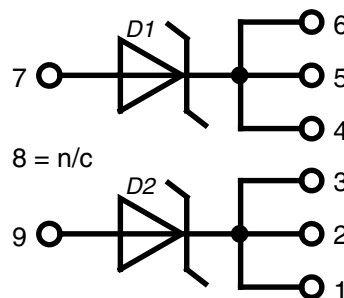
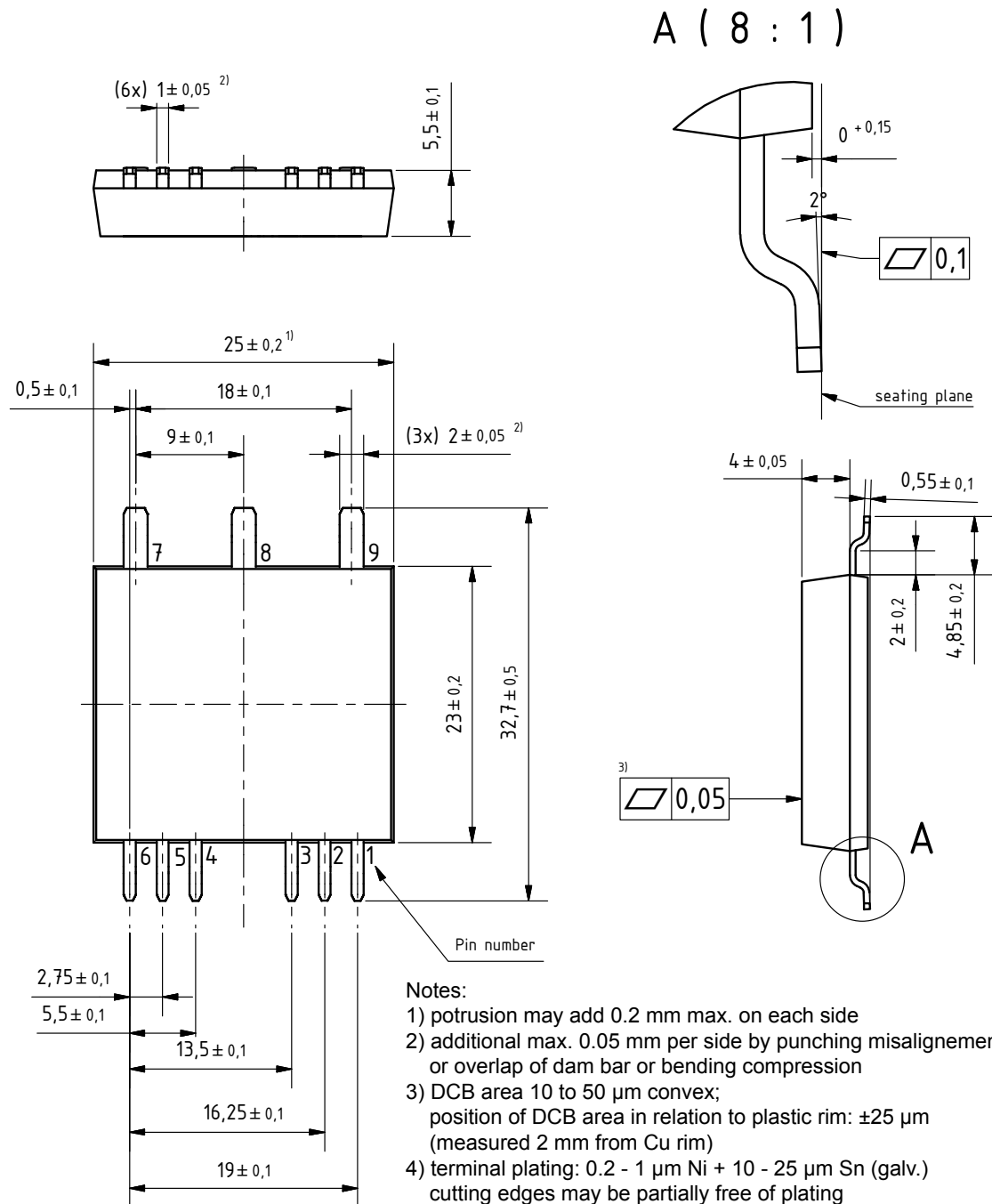
$T_{VJ} = 175^\circ\text{C}$



Schottky

$V_{0\max}$	threshold voltage	0.51	V
$R_{0\max}$	slope resistance *	1.3	mΩ

Outlines SMPD



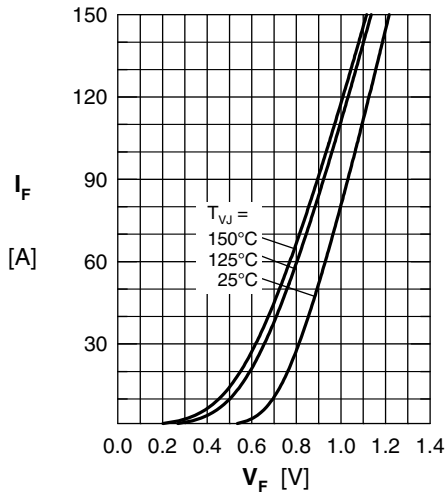


Fig. 1 Maximum forward voltage drop characteristics

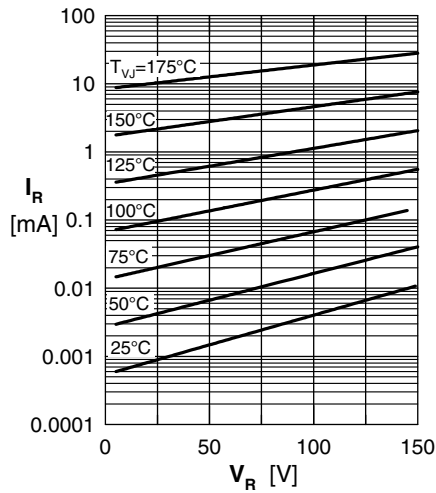


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

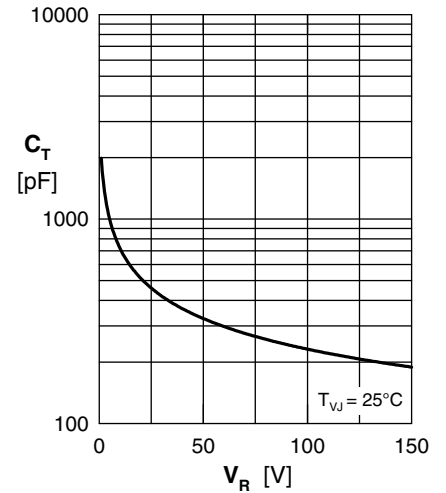


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

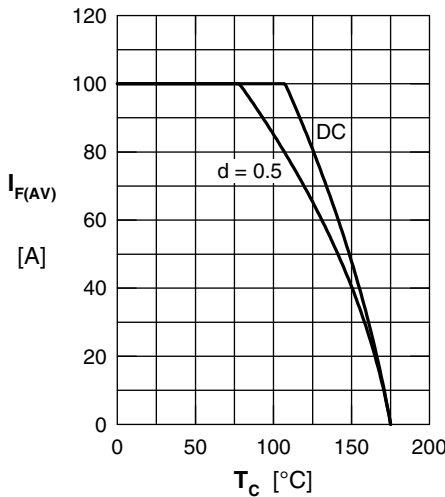


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

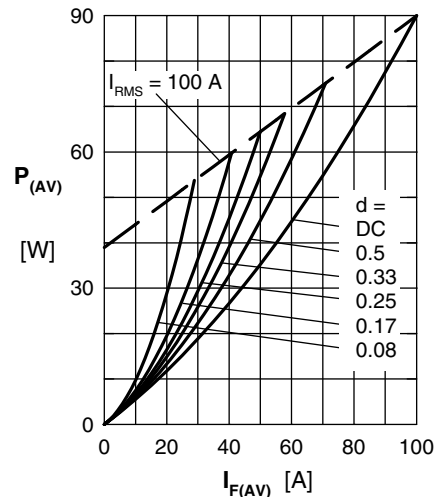


Fig. 5 Forward power loss @ $T_J = 175^\circ\text{C}$

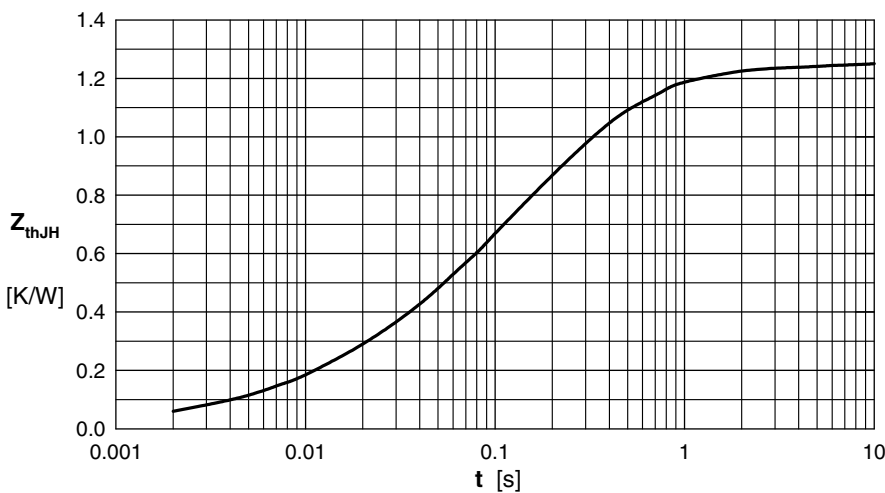


Fig. 6 Transient thermal impedance junction

Note: All curves are per diode