

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

## High Performance Schottky Diode

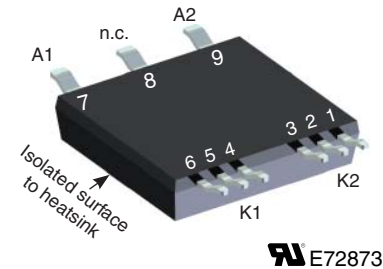
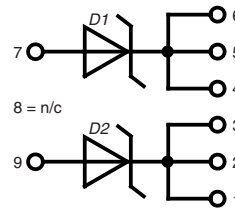
### Low Loss and Soft Recovery

### Parallel Legs

$$V_{RRM} = 150 \text{ V}$$

$$I_{DAV} = 2 \times 75 \text{ A}$$

$$V_F = 0.80 \text{ V}$$



#### Diodes

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
$V_{RRM}$				1200	V
$I_R$	$V_R = 150 \text{ V}$	$T_{VJ} = 25^\circ\text{C}$		1	mA
		$T_{VJ} = 125^\circ\text{C}$		5	mA
$V_F$	$I_F = 60 \text{ A}$ $I_F = 120 \text{ A}$	$T_{VJ} = 25^\circ\text{C}$		0.93	V
		$T_{VJ} = 125^\circ\text{C}$		1.13	V
	rectangular; $d = 0.5$	$T_C = 130^\circ\text{C}$		75	A
$V_{F0}$ $r_F$	} for power loss calculation only	$T_{VJ} = 175^\circ\text{C}$		0.5	V
				1.3	m
$R_{thJC}$				0.8	K/W
$R_{thJH}$	with thermal transfer paste (IXYS test setup)		1.0	1.25	K/W
$T_{VJ}$		-55		175	$^\circ\text{C}$
$P_{tot}$		$T_C = 25^\circ\text{C}$		185	W
$I_{FSM}$	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$ $V_R = 0 \text{ V}$	$T_{VJ} = 45^\circ\text{C}$		600	As
$C_J$	$V_R = 24 \text{ V}; f = 1 \text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$		480	pF

#### Component

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
$I_{RMS}$	wide pin			100	A
	standard pin			60	A
$T_{stg}$		-55		150	$^\circ\text{C}$
<b>Weight</b>			8		g
$F_C$		40		130	N
$V_{ISOL}$	$t = 1 \text{ second}$		3000		V
	$t = 1 \text{ minute}$		2500		V
$d_S, d_A$	pin - pin	1.65			mm
$d_S, d_A$	pin - backside metal	4			mm

#### Features

- 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

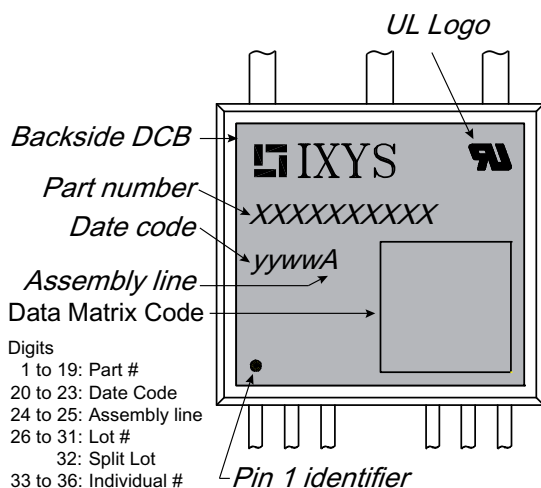
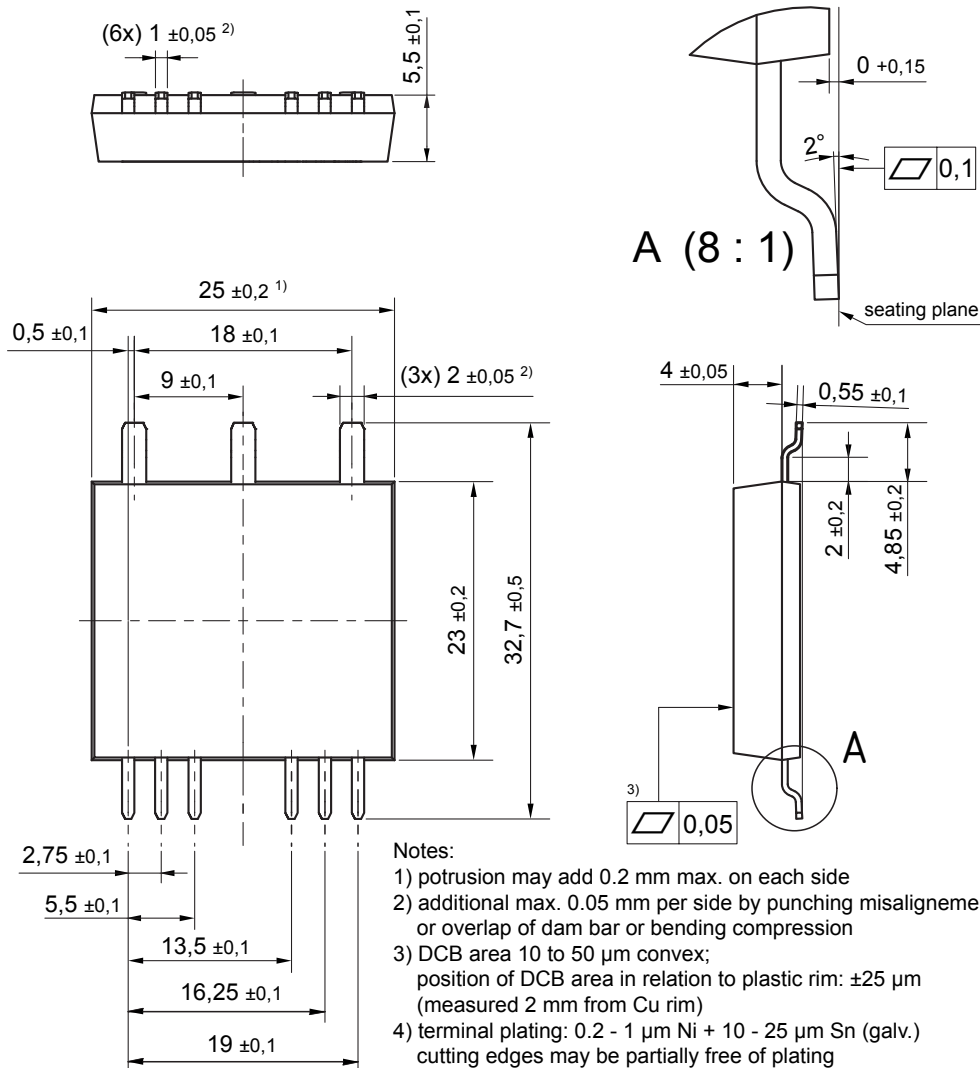
#### Applications

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

#### Package

- DCB isolated backside
- Isolation Voltage 3000 V
- Epoxy meets UL 94V-0
- RoHS compliant

Dimensions in mm  
(1 mm = 0.0394")



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

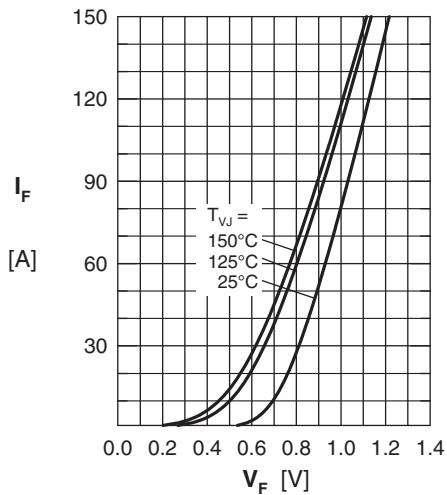


Fig. 1 Maximum forward voltage drop characteristics

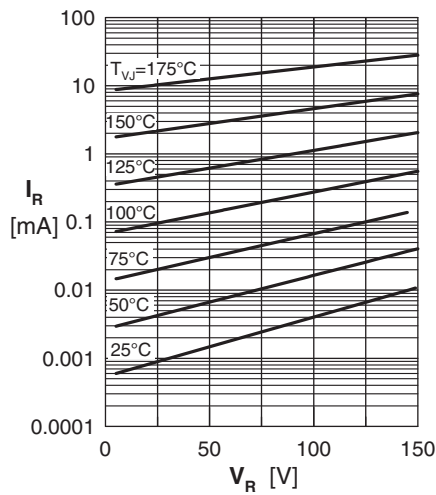


Fig. 2 Typ. reverse current  $I_R$  vs. reverse voltage  $V_R$

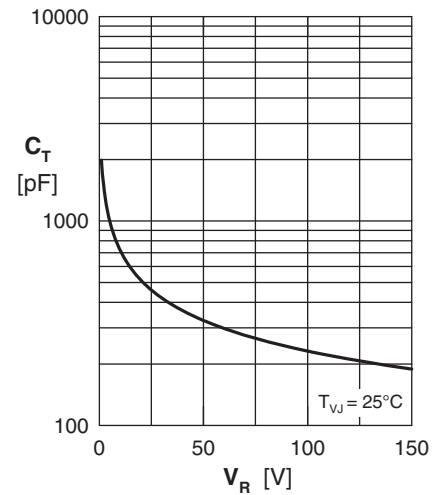


Fig. 3 Typ. junction capacitance  $C_T$  vs. reverse voltage  $V_R$

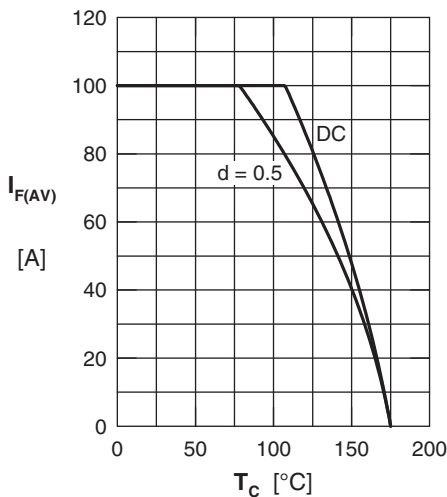


Fig. 4 Average forward current  $I_{F(AV)}$  vs. case temperature  $T_C$

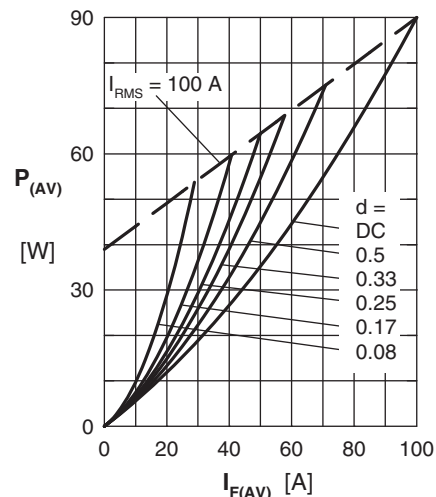


Fig. 5 Forward power loss @  $T_J = 175^\circ\text{C}$

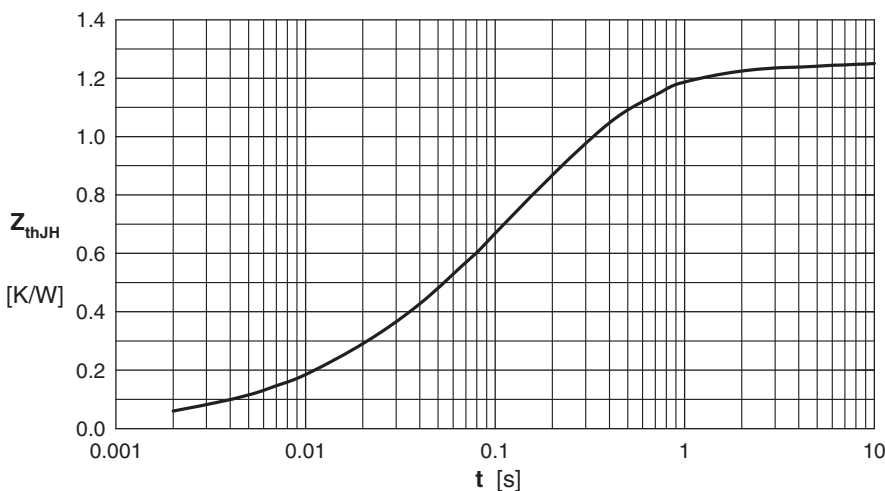


Fig. 6 Transient thermal impedance junction

Note: All curves are per diode