

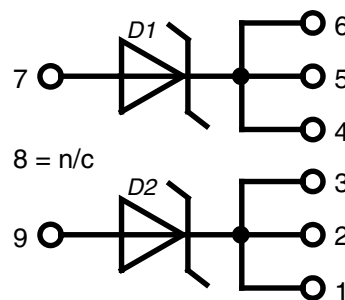
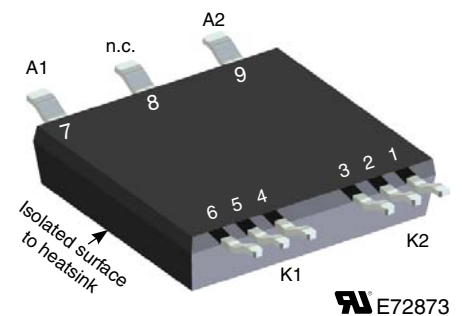
Schottky Diode Gen²

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

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:

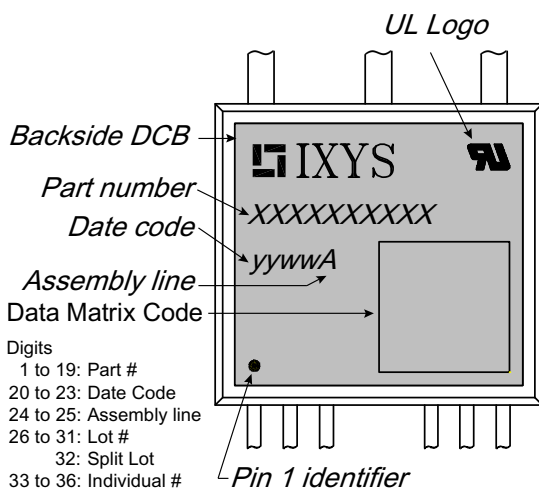
- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Package: SMPD

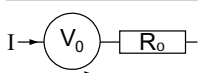
- Isolation Voltage: 3000 V~ ($t = 1\text{ s}$)
- Industry convenient outline
- RoHS compliant
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

| 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 |



| 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

