

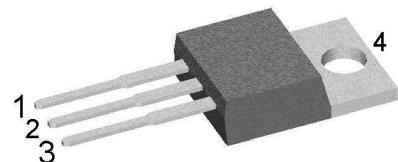
Schottky Diode Gen 2

V_{RRM} = 100 V
 I_{FAV} = 2x 15 A
 V_F = 0.73 V

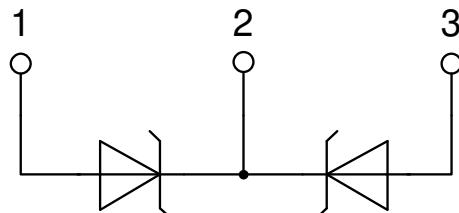
High Performance Schottky Diode
 Low Loss and Soft Recovery
 Common Cathode

Part number

DSA30C100PB



Backside: cathode



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: TO-220

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Disclaimer Notice

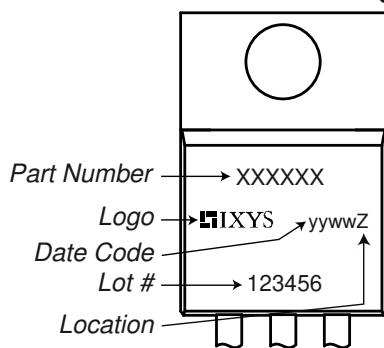
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Schottky

Symbol	Definition	Conditions	Ratings			
			min.	typ.	max.	
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^\circ C$			100	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^\circ C$			100	V
I_R	reverse current, drain current	$V_R = 100 V$ $V_R = 100 V$	$T_{VJ} = 25^\circ C$ $T_{VJ} = 125^\circ C$		250 2.5	μA mA
V_F	forward voltage drop	$I_F = 15 A$ $I_F = 30 A$ $I_F = 15 A$ $I_F = 30 A$	$T_{VJ} = 25^\circ C$ $T_{VJ} = 125^\circ C$		0.91 1.08 0.73 0.91	V V V V
I_{FAV}	average forward current	$T_C = 155^\circ C$ rectangular $d = 0.5$	$T_{VJ} = 175^\circ C$		15	A
V_{F0} r_F	threshold voltage slope resistance } for power loss calculation only		$T_{VJ} = 175^\circ C$		0.46 12.4	V $m\Omega$
R_{thJC}	thermal resistance junction to case				1.75	K/W
R_{thCH}	thermal resistance case to heatsink			0.5		K/W
P_{tot}	total power dissipation		$T_C = 25^\circ C$		35	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{sine}; V_R = 0 V$	$T_{VJ} = 45^\circ C$		340	A
C_J	junction capacitance	$V_R = 12 V$ $f = 1 \text{ MHz}$	$T_{VJ} = 25^\circ C$	146		pF

Package TO-220

Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	<i>RMS current</i>	per terminal ¹⁾			35	A
T_{VJ}	<i>virtual junction temperature</i>		-55		175	°C
T_{op}	<i>operation temperature</i>		-55		150	°C
T_{stg}	<i>storage temperature</i>		-55		150	°C
Weight				2		g
M_d	<i>mounting torque</i>		0.4		0.6	Nm
F_c	<i>mounting force with clip</i>		20		60	N

Product Marking

Part description

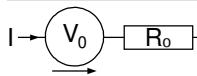
D = Diode
S = Schottky Diode
A = low VF
30 = Current Rating [A]
C = Common Cathode
100 = Reverse Voltage [V]
PB = TO-220AB (3)

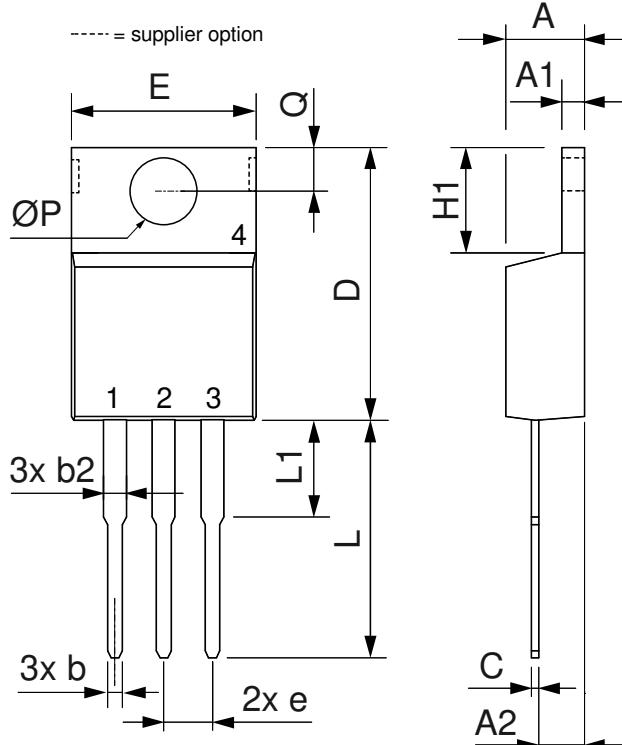
Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA30C100PB	DSA30C100PB	Tube	50	503515

Similar Part	Package	Voltage class
DSA30C100PN	TO-220ABFP (3)	100
DSA30C100HB	TO-247AD (3)	100
DSA30C100QB	TO-3P (3)	100

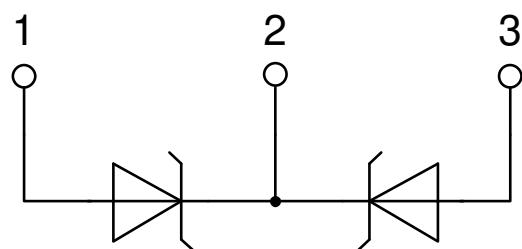
Equivalent Circuits for Simulation
^{*} on die level

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

	Schottky	
V_0	threshold voltage	0.46 V
$R_{0\max}$	slope resistance *	9.2 mΩ

Outlines TO-220


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.32	4.82	0.170	0.190
A1	1.14	1.39	0.045	0.055
A2	2.29	2.79	0.090	0.110
b	0.64	1.01	0.025	0.040
b2	1.15	1.65	0.045	0.065
C	0.35	0.56	0.014	0.022
D	14.73	16.00	0.580	0.630
E	9.91	10.66	0.390	0.420
e	2.54	BSC	0.100	BSC
H1	5.85	6.85	0.230	0.270
L	12.70	13.97	0.500	0.550
L1	2.79	5.84	0.110	0.230
ØP	3.54	4.08	0.139	0.161
Q	2.54	3.18	0.100	0.125



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