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

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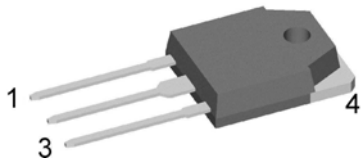
Schottky Diode Gen ²

V_{RRM} = 100V
I_{FAV} = 2x 25A
V_F = 0.72V

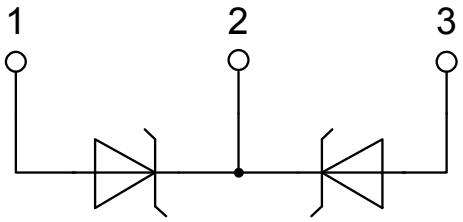
High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSA50C100QB



Backside: cathode



Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm 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

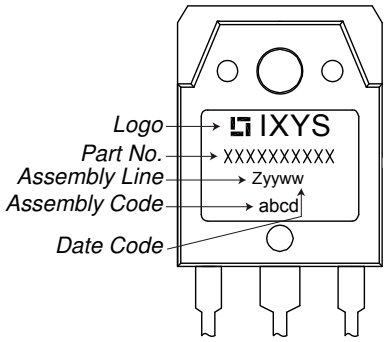
Package: TO-3P

- Industry standard outline compatible with TO-247
- RoHS compliant
- Epoxy meets UL 94V-0

Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			100	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			100	V
I_R	*reverse current, drain current*	V_R = 100 V	T_{VJ} = 25°C			450	µA
		V_R = 100 V	T_{VJ} = 125°C			5	mA
V_F	*forward voltage drop*	I_F = 25 A	T_{VJ} = 25°C			0.90	V
		I_F = 50 A				1.07	V
		I_F = 25 A	T_{VJ} = 125°C			0.72	V
		I_F = 50 A				0.90	V
I_{FAV}	*average forward current*	T_C = 155°C	T_{VJ} = 175°C			25	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0.45	V
r_F	*slope resistance* }					7.3	mΩ
R_{thJC}	*thermal resistance junction to case*					0.95	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.25		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			160	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			440	A
C_J	*junction capacitance*	V_R = 12 V f = 1 MHz	T_{VJ} = 25°C		289		pF

Package TO-3P			Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per terminal [1]			50	A
T_{VJ}	*virtual junction temperature*		-55		175	°C
T_{op}	*operation temperature*		-55		150	°C
T_{stg}	*storage temperature*		-55		150	°C
Weight				5		g
M_D	*mounting torque*		0.8		1.2	Nm
F_C	*mounting force with clip*		20		120	N

Product Marking



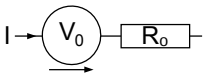
Part number

D = Diode
S = Schottky Diode
A = low VF
50 = Current Rating [A]
C = Common Cathode
100 = Reverse Voltage [V]
QB = TO-3P (3)

Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA50C100QB	DSA50C100QB	Tube	30	504033

Similar Part	Package	Voltage class
DSA50C100HB	TO-247AD (3)	100
DSA60C100PB	TO-220AB (3)	100

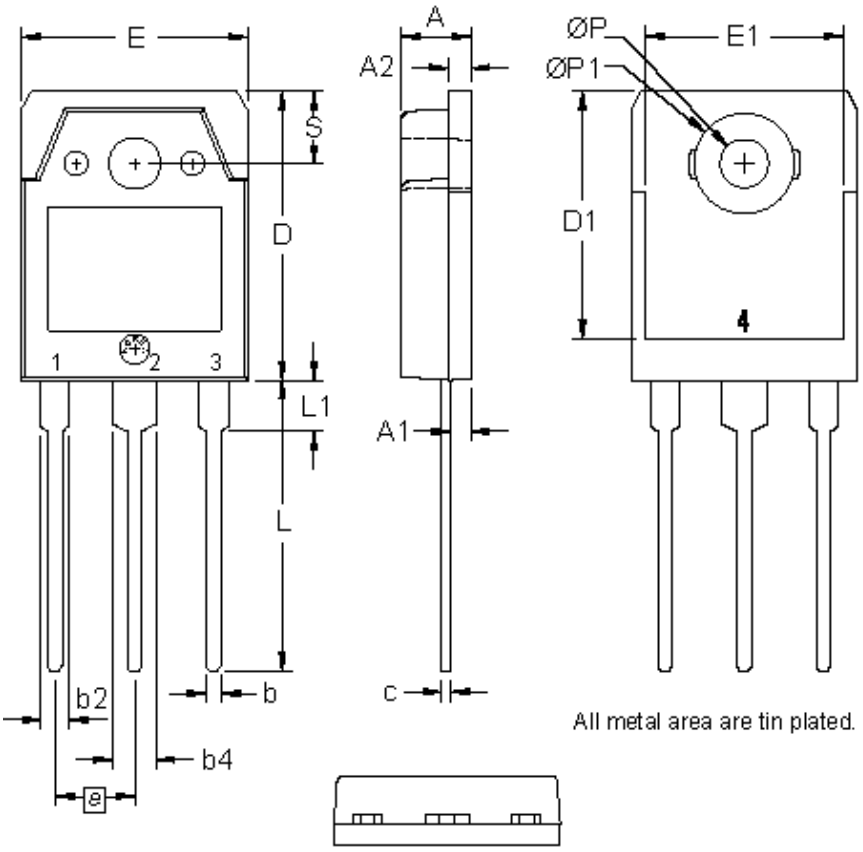
Equivalent Circuits for Simulation ** on die level* T_{VJ} = 175 °C



Schottky

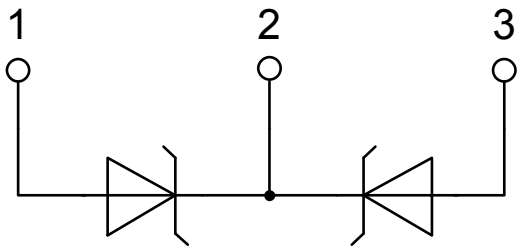
$V_{0\,max}$	*threshold voltage*	0.45	V
$R_{0\,max}$	*slope resistance **	4.7	mΩ

Outlines TO-3P



All metal area are tin plated.

Dim.	Millimeter		Inches	
	min	max	min	max
A	4.70	4.90	0.185	0.193
A1	1.30	1.50	0.051	0.059
A2	1.45	1.65	0.057	0.065
b	0.90	1.15	0.035	0.045
b2	1.90	2.20	0.075	0.087
b4	2.90	3.20	0.114	0.126
c	0.55	0.80	0.022	0.031
D	19.80	20.10	0.780	0.791
D1	16.90	17.20	0.665	0.677
E	15.50	15.80	0.610	0.622
E1	13.50	13.70	0.531	0.539
e	5.45 BSC		0.215 BSC	
L	19.80	20.20	0.780	0.795
L1	3.40	3.60	0.134	0.142
Ø P	3.20	3.40	0.126	0.134
ØP1	6.90	7.10	0.272	0.280
S	4.90	5.10	0.193	0.201



Schottky

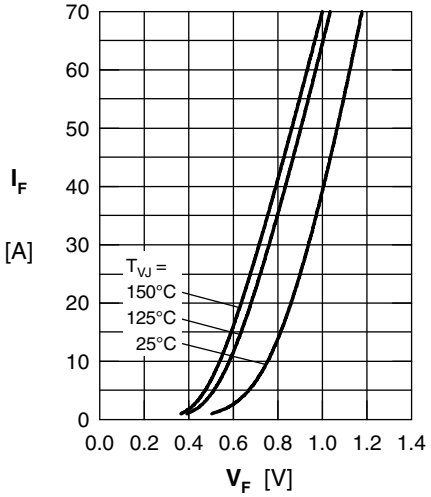


Fig. 1 Maximum forward voltage drop characteristics

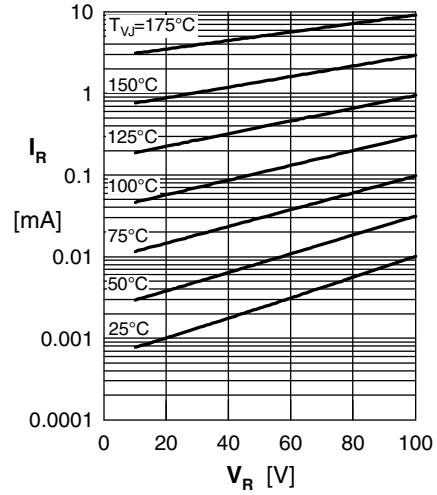


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

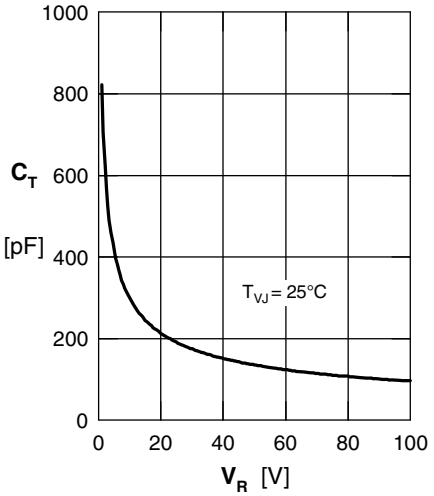


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

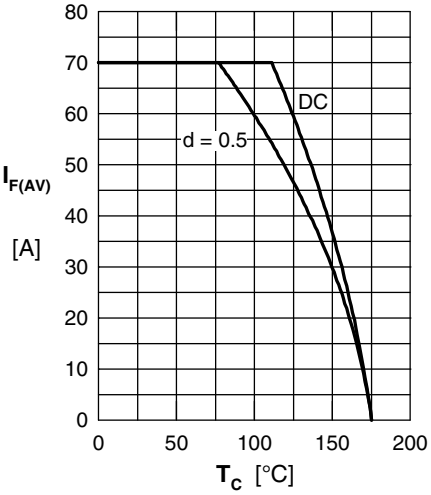


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temperature T_C

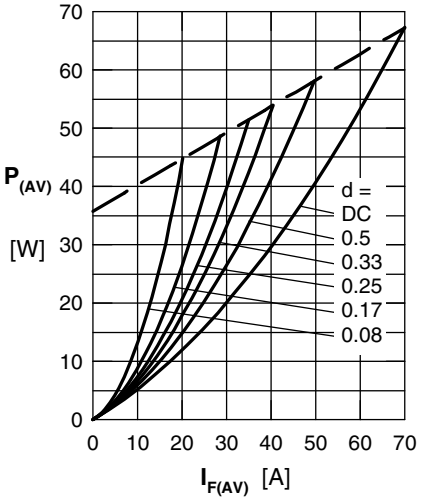


Fig. 5 Forward power loss characteristics

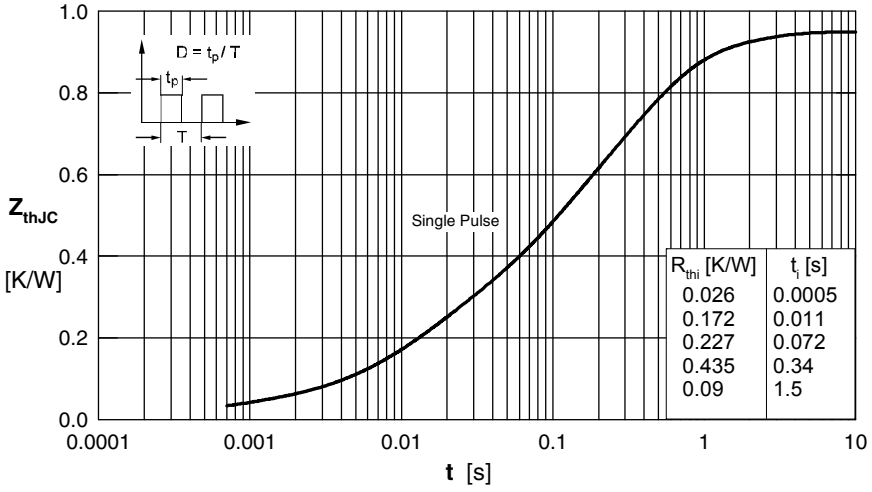


Fig. 6 Transient thermal impedance junction to case

Note: All curves are per diode