



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.

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Schottky Diode Gen ²

$$V_{RRM} = 200V$$

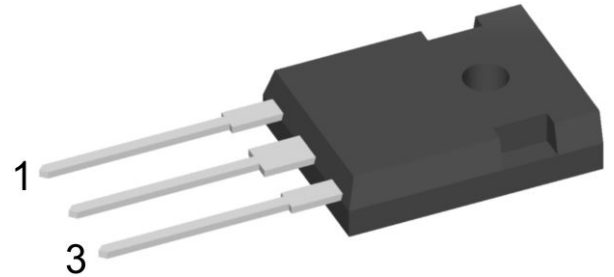
$$I_{FAV} = 2 \times 45A$$

$$V_F = 0.79V$$


High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

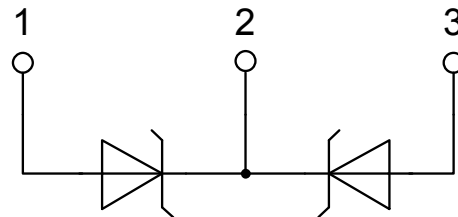
Part number

DSA90C200HR



Backside: isolated

 E72873



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

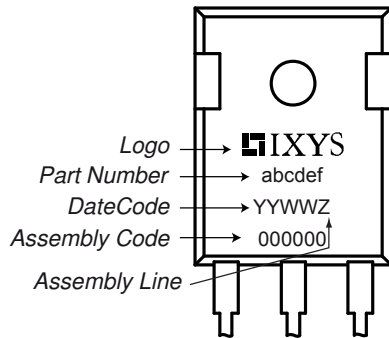
Package: ISO247

- Isolation Voltage: 3600 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

Schottky				Ratings		
Symbol	Definition	Conditions	min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage				200	V
V_{RRM}	max. repetitive reverse blocking voltage				200	V
I_R	reverse current, drain current	$V_R = 200\text{ V}$			2	mA
		$V_R = 200\text{ V}$			5	mA
V_F	forward voltage drop	$I_F = 45\text{ A}$			0.91	V
		$I_F = 90\text{ A}$			1.10	V
		$I_F = 45\text{ A}$			0.79	V
		$I_F = 90\text{ A}$			1.03	V
I_{FAV}	average forward current	$T_C = 145^\circ\text{C}$			45	A
		rectangular $d = 0.5$				
V_{FO}	threshold voltage	} for power loss calculation only			0.49	V
r_F	slope resistance				5.5	mΩ
R_{thJC}	thermal resistance junction to case				0.7	K/W
R_{thCH}	thermal resistance case to heatsink			0.25		K/W
P_{tot}	total power dissipation				215	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$			600	A
C_J	junction capacitance	$V_R = 24\text{ V}$ $f = 1\text{ MHz}$			394	pF

Package ISO247		Ratings				
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal ¹⁾			70	A
T_{VJ}	virtual junction temperature		-55		175	°C
T_{op}	operation temperature		-55		150	°C
T_{stg}	storage temperature		-55		150	°C
Weight				6		g
M_D	mounting torque		0.8		1.2	Nm
F_C	mounting force with clip		20		120	N
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	2.7			mm
$d_{Spb/Apb}$		terminal to backside	4.1			mm
V_{ISOL}	isolation voltage	t = 1 second	3600			V
		t = 1 minute	3000			V

Product Marking



Part number

- D = Diode
- S = Schottky Diode
- A = low VF
- 90 = Current Rating [A]
- C = Common Cathode
- 200 = Reverse Voltage [V]
- HR = ISO247 (3)

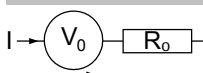
Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA90C200HR	DSA90C200HR	Tube	30	508368

Similar Part	Package	Voltage class
DSSK60-02AR	ISOPLUS247 (3)	200
DSSK60-02A	TO-247AD (3)	200

Equivalent Circuits for Simulation

* on die level

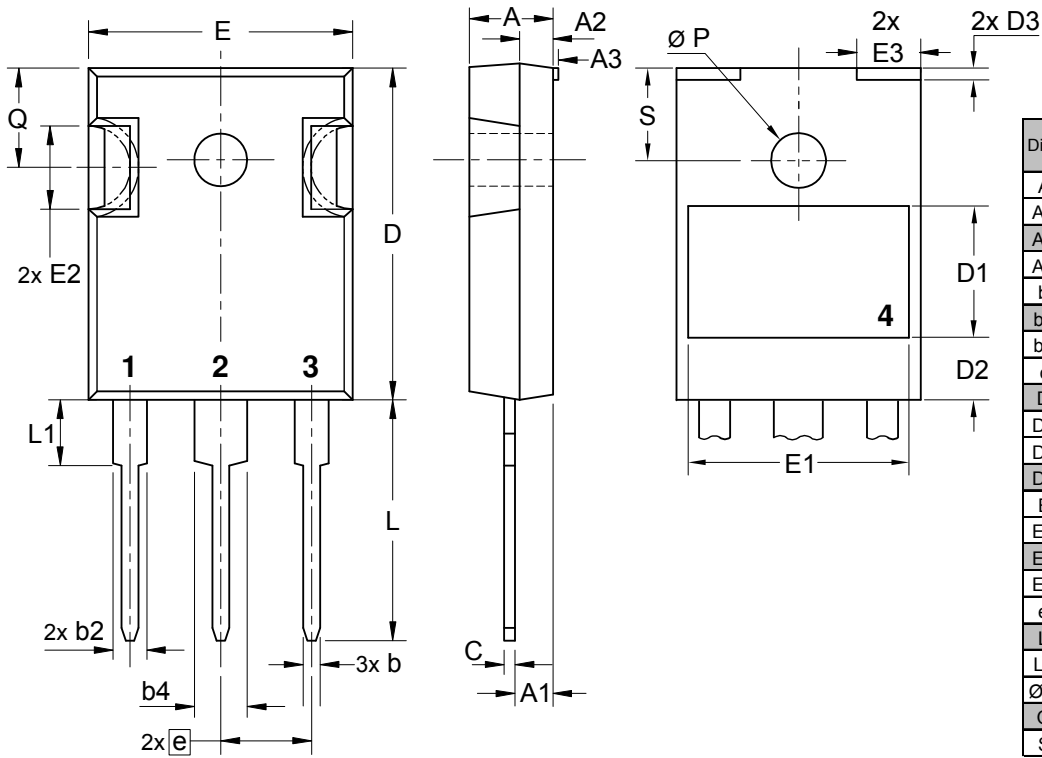
$T_{VJ} = 175\text{ °C}$



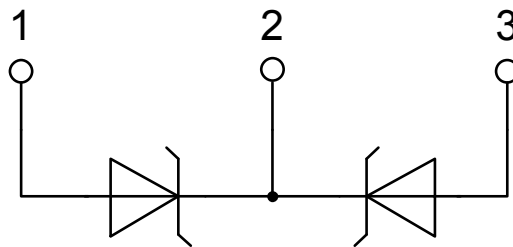
Schottky

$V_{0\ max}$	threshold voltage	0.49	V
$R_{0\ max}$	slope resistance *	2.9	mΩ

Outlines ISO247



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.70	5.30	0.185	0.209
A1	2.21	2.59	0.087	0.102
A2	1.50	2.49	0.059	0.098
A3	typ. 0.05		typ. 0.002	
b	0.99	1.40	0.039	0.055
b2	1.65	2.39	0.065	0.094
b4	2.59	3.43	0.102	0.135
c	0.38	0.89	0.015	0.035
D	20.79	21.45	0.819	0.844
D1	typ. 8.90		typ. 0.350	
D2	typ. 2.90		typ. 0.114	
D3	typ. 1.00		typ. 0.039	
E	15.49	16.24	0.610	0.639
E1	typ. 13.45		typ. 0.530	
E2	4.31	5.48	0.170	0.216
E3	typ. 4.00		typ. 0.157	
e	5.46 BSC		0.215 BSC	
L	19.80	20.30	0.780	0.799
L1	-	4.49	-	0.177
Ø P	3.55	3.65	0.140	0.144
Q	5.38	6.19	0.212	0.244
S	6.14 BSC		0.242 BSC	



Schottky

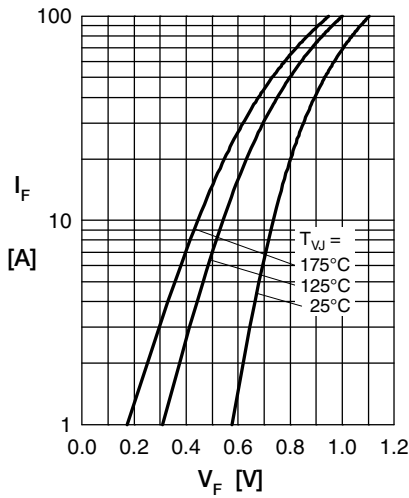


Fig. 1 Max. forward voltage drop characteristics

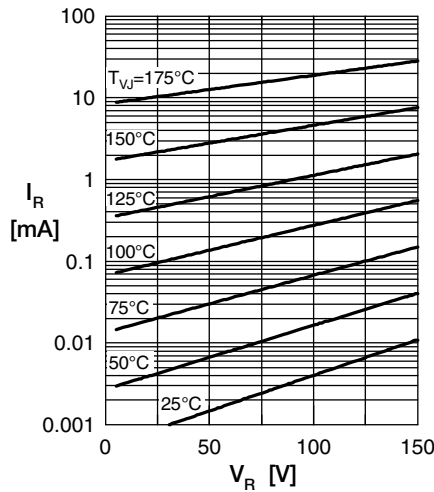


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

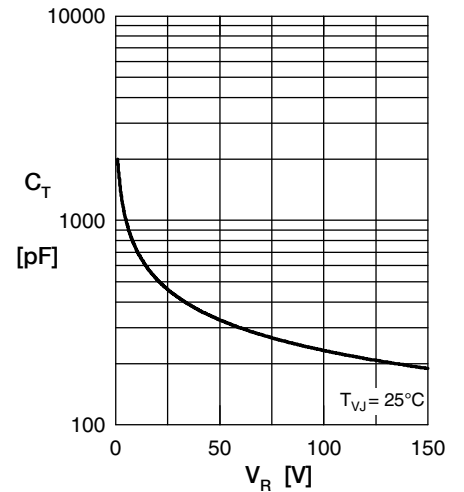


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

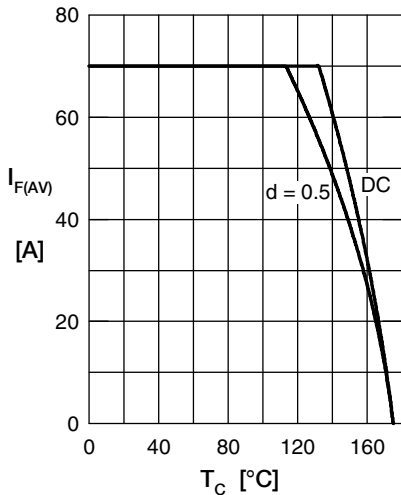


Fig. 4 Avg. forward current $I_{F(AV)}$ vs. case temp. T_C

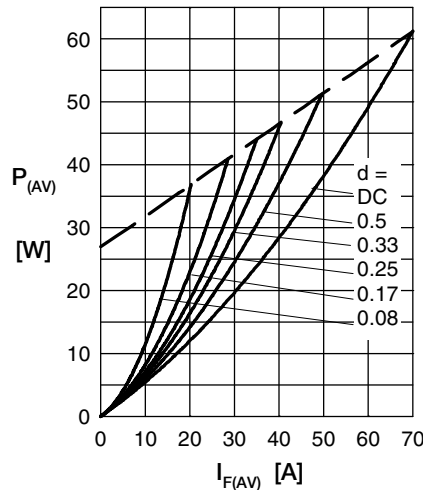


Fig. 5 Forward power loss characteristics

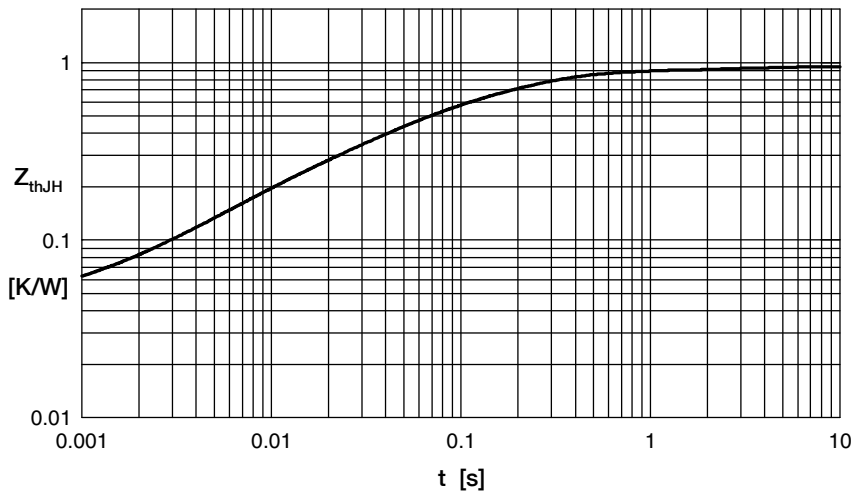


Fig. 6 Transient thermal impedance junction to heatsink

R_{thi}	t_i
0.041	0.0002
0.087	0.0065
0.258	0.037
0.486	0.182
0.078	2.43

Note: All curves are per diode