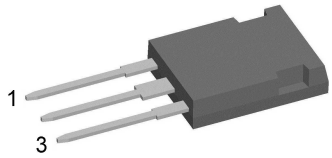
Schottky Diode

V_{RRM}	= 2x	80 V
I_{FAV}	=	35 A
V_F	=	0,68 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Phase leg

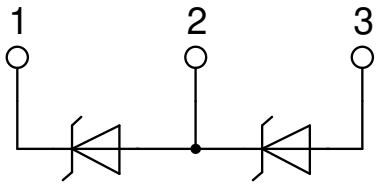
Part number

DSSS35-008AR



Backside: isolated

E72873



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: ISOPLUS247

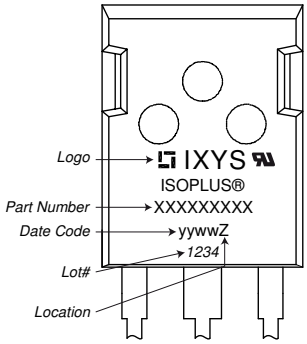
- Isolation Voltage: 3600 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Backside: DCB ceramic
- Reduced weight
- Advanced power cycling

Schottky

Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			80	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			80	V
I_R	*reverse current, drain current*	V_R = 80 V	T_{VJ} = 25°C			4	mA
		V_R = 80 V	T_{VJ} = 125°C			10	mA
V_F	*forward voltage drop*	I_F = 35 A	T_{VJ} = 25°C			0,79	V
		I_F = 70 A				0,95	V
		I_F = 35 A	T_{VJ} = 125°C			0,68	V
		I_F = 70 A				0,86	V
I_{FAV}	*average forward current*	T_C = 150°C	T_{VJ} = 175°C			35	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0,43	V
r_F	*slope resistance* }					4,3	mΩ
R_{thJC}	*thermal resistance junction to case*					0,8	K/W
R_{thCH}	*thermal resistance case to heatsink*				0,25		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			190	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			600	A
C_J	*junction capacitance*	V_R = 12 V f = 1 MHz	T_{VJ} = 25°C		1,05		nF

Package ISOPLUS247				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal				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
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	50/60 Hz, RMS; I_{ISOL} ≤ 1 mA	3600			V
		t = 1 minute		3000			V

Product Marking

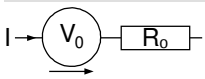


Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSSS35-008AR	DSSS35-008AR	Tube	30	499315

Similar Part	Package	Voltage class
DSSS30-01AR	ISOPLUS247 (3)	100

Equivalent Circuits for Simulation

** on die level* T_{VJ} = 175°C



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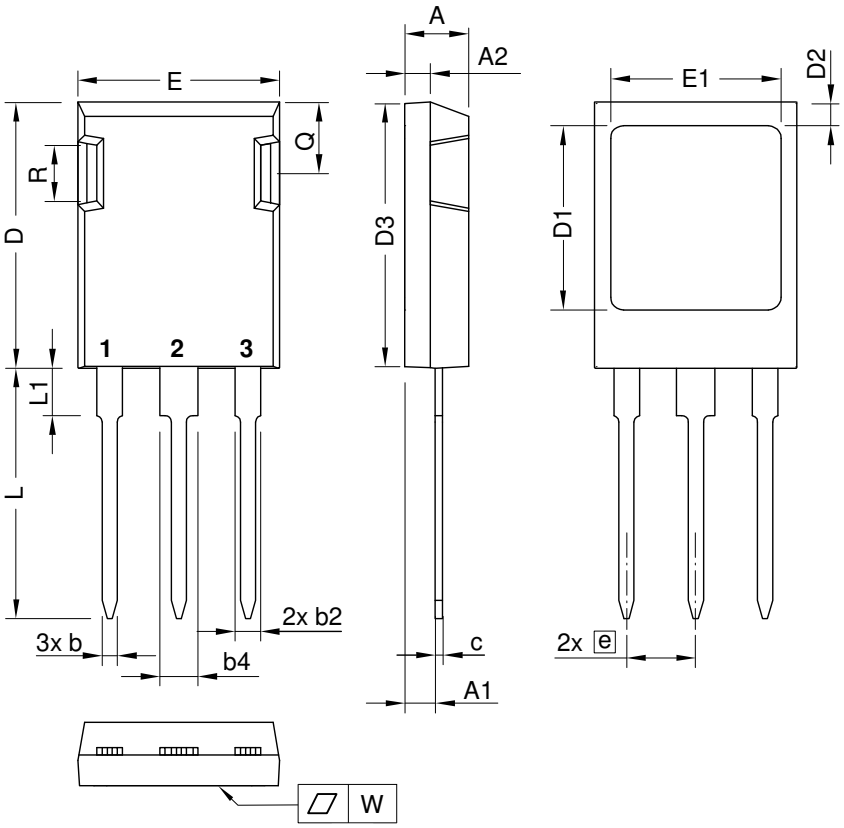
$V_{0\,max}$	*threshold voltage*	0,43	V
$R_{0\,max}$	*slope resistance **	1,8	mΩ

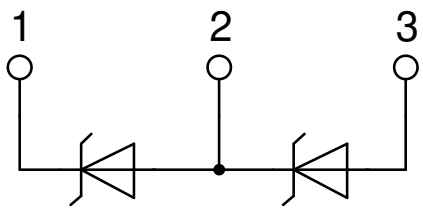
Outlines ISOPLUS247



Dim.	Millimeter		Inches	
	min	max	min	max
A	4.83	5.21	0.190	0.205
A1	2.29	2.54	0.090	0.100
A2	1.91	2.16	0.075	0.085
b	1.14	1.40	0.045	0.055
b2	1.91	2.20	0.075	0.087
b4	2.92	3.24	0.115	0.128
c	0.61	0.83	0.024	0.033
D	20.80	21.34	0.819	0.840
D1	15.75	16.26	0.620	0.640
D2	1.65	2.15	0.065	0.085
D3	20.30	20.70	0.799	0.815
E	15.75	16.13	0.620	0.635
E1	13.21	13.72	0.520	0.540
e	5.45 BSC		0.215 BSC	
L	19.81	20.60	0.780	0.811
L1	3.81	4.38	0.150	0.172
Q	5.59	6.20	0.220	0.244
R	4.25	5.50	0.167	0.217
W	-	0.10	-	0.004

Die konvexe Form des Substrates ist typ. < 0.04 mm über der Kunststoffoberfläche der Bauteilunterseite
The convex bow of substrate is typ. < 0.04 mm over plastic surface level of device bottom side

Die Gehäuseabmessungen entsprechen dem Typ TO-247 AD gemäß JEDEC außer Schraubloch und $L_{max.}$
This drawing will meet all dimensions requiarement of JEDEC outline TO-247 AD except screw hole and except $L_{max.}$



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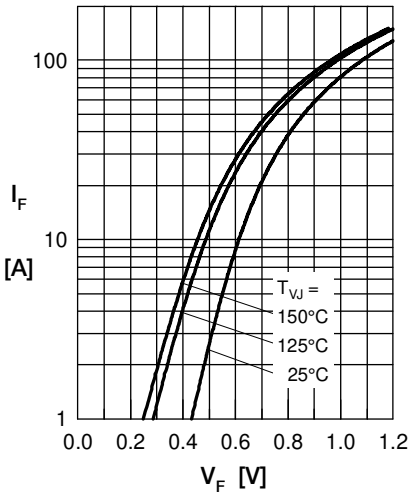

Fig. 1 Max. forward voltage drop characteristics

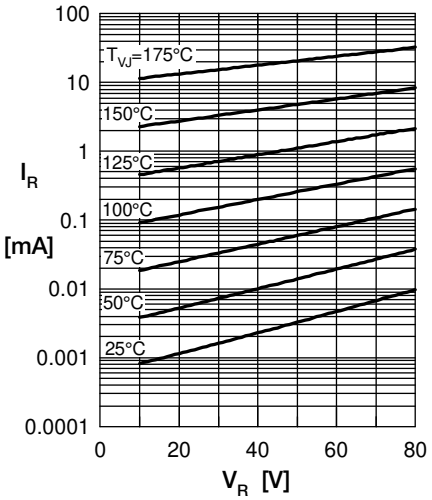

Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

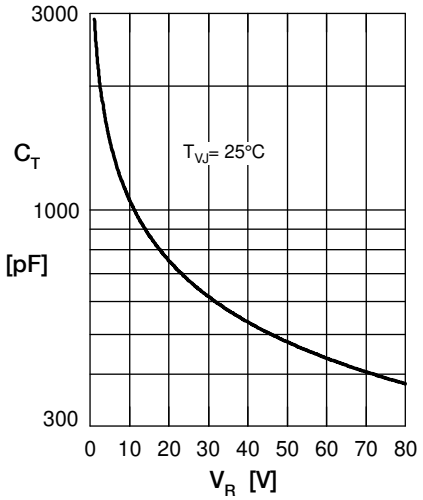

Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

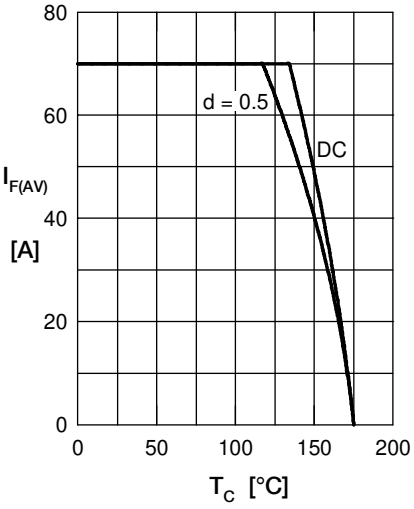

Fig. 4 Average forward current $I_{F(AV)}$ vs. case temp. T_C

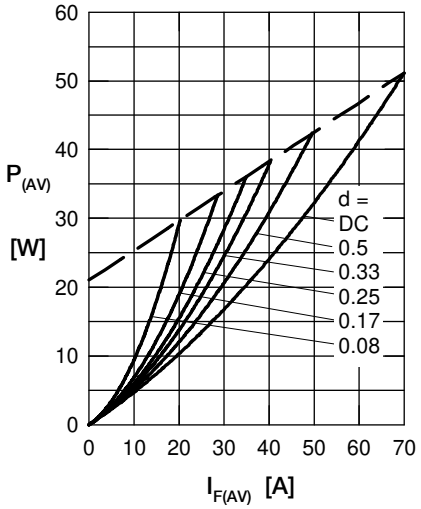

Fig. 5 Forward power loss characteristics

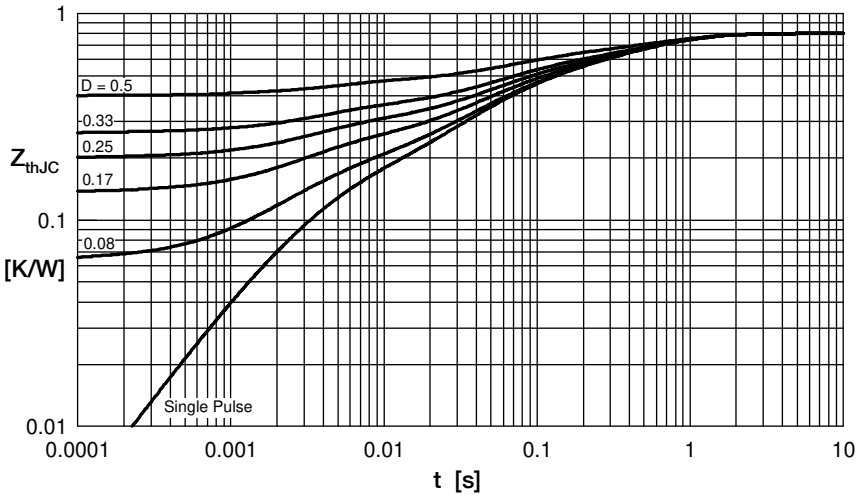

Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode