Schottky Diode

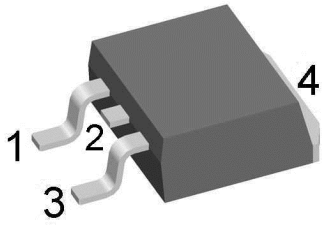
V_{RRM} = 100 V
I_{FAV} = 2x 15 A
V_F = 0.64 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

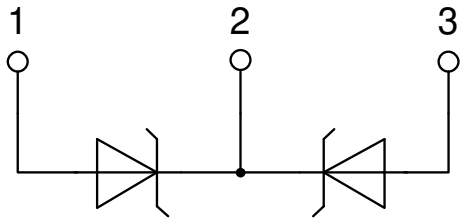
Part number

DSSK28-01AS

Marking on Product: DSSK28-01AS



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

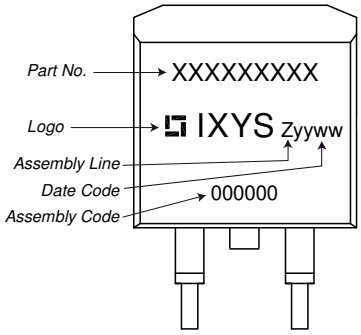
Package: TO-263 (D2Pak)

- Industry standard outline
- 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			500	µA
		V_R = 100 V	T_{VJ} = 125°C			5	mA
V_F	*forward voltage drop*	I_F = 15 A	T_{VJ} = 25°C			0.82	V
		I_F = 30 A				0.95	V
		I_F = 15 A	T_{VJ} = 125°C			0.64	V
		I_F = 30 A				0.78	V
I_{FAV}	*average forward current*	T_C = 160°C	T_{VJ} = 175°C			15	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* }					8.6	mΩ
R_{thJC}	*thermal resistance junction to case*					1.4	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.25		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			105	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			230	A
C_J	*junction capacitance*	V_R = 12 V f = 1 MHz	T_{VJ} = 25°C		289		pF

Package TO-263 (D2Pak)			Ratings			
Symbol	**Definition**	**Conditions**	**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal			35	A
T_{VJ}	*virtual junction temperature*		-55		175	°C
T_{op}	*operation temperature*		-55		150	°C
T_{stg}	*storage temperature*		-55		150	°C
Weight				2		g
F_C	*mounting force with clip*		20		60	N

Product Marking

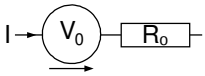


Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSSK28-01AS-TRL	DSSK28-01AS	Tape & Reel	800	494119
Alternative	DSSK28-01AS-TUB	DSSK28-01AS	Tube	50	492280

Similar Part	Package	Voltage class
DSSK30-01A	TO-247AD (3)	100
DSA30C100PB	TO-220AB (3)	100
DSA30C100PN	TO-220ABFP (3)	100
DSA30C100HB	TO-247AD (3)	100
DSA30C100QB	TO-3P (3)	100
DSA60C100PB	TO-220AB (3)	100
DSA50C100HB	TO-247AD (3)	100

Equivalent Circuits for Simulation

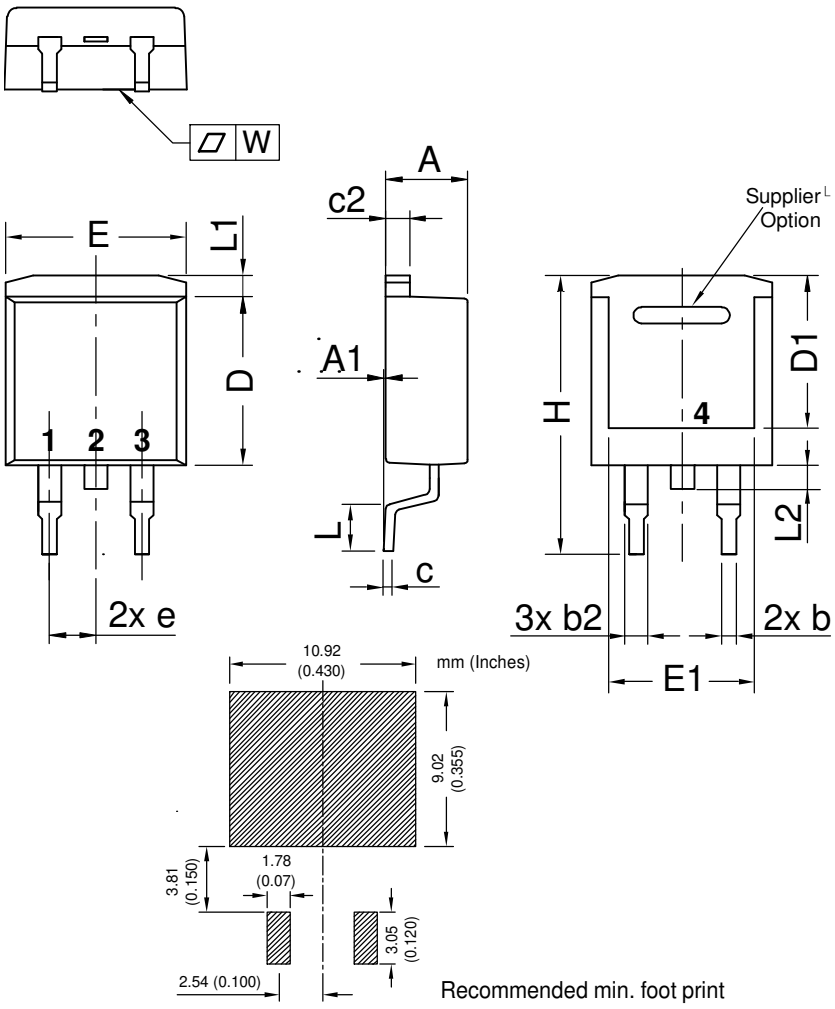
** on die level* T_{VJ} = 175 °C



Schottky

$V_{0\ max}$	*threshold voltage*	0.43	V
$R_{0\ max}$	*slope resistance **		mΩ

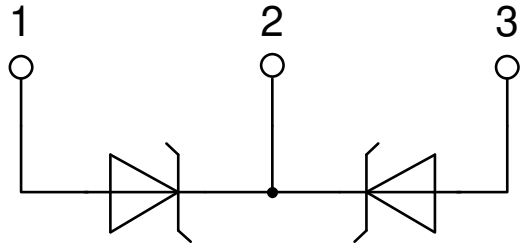
Outlines TO-263 (D2Pak)



Recommended min. foot print

Dim.	Millimeter		Inches	
	min	max	min	max
A	4.06	4.83	0.160	0.190
A1	typ. 0.10		typ. 0.004	
A2	2.41		0.095	
b	0.51	0.99	0.020	0.039
b2	1.14	1.40	0.045	0.055
c	0.40	0.74	0.016	0.029
c2	1.14	1.40	0.045	0.055
D	8.38	9.40	0.330	0.370
D1	8.00	8.89	0.315	0.350
D2	2.5		0.098	
E	9.65	10.41	0.380	0.410
E1	6.22	8.50	0.245	0.335
e	2,54 BSC		0,100 BSC	
e1	4.28		0.169	
H	14.61	15.88	0.575	0.625
L	1.78	2.79	0.070	0.110
L1	1.02	1.68	0.040	0.066
W	typ. 0.02	0.040	typ. 0.0008	0.002

All dimensions conform with and/or within JEDEC standard.



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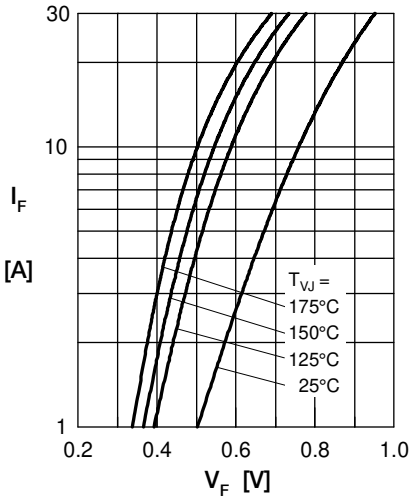

Fig. 1 Maximum forward voltage drop characteristics

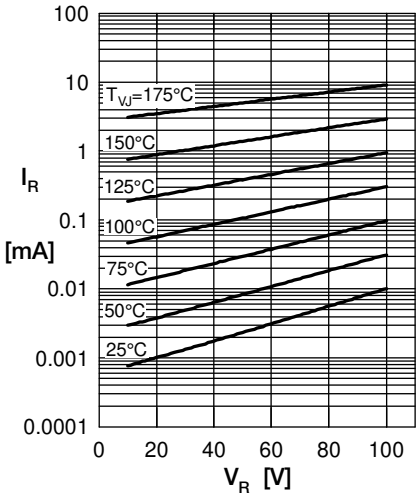

Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

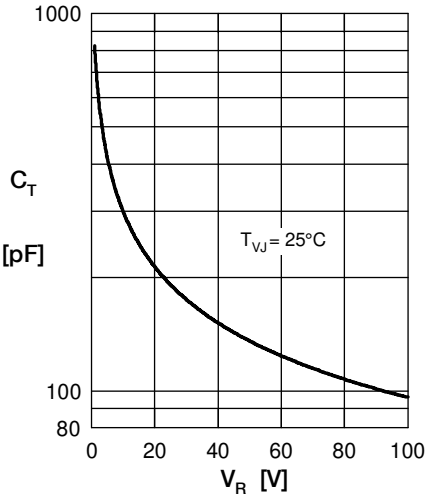

Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

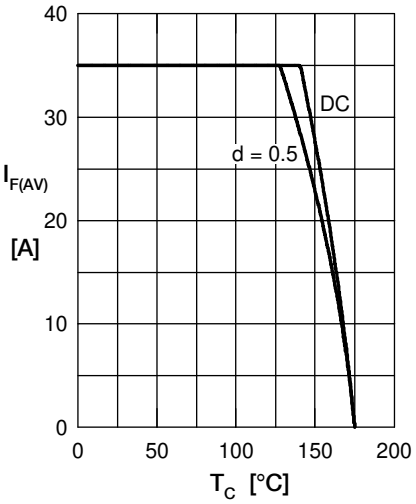

Fig. 4 Average forward current $I_{F(AV)}$ vs. case temp. T_C

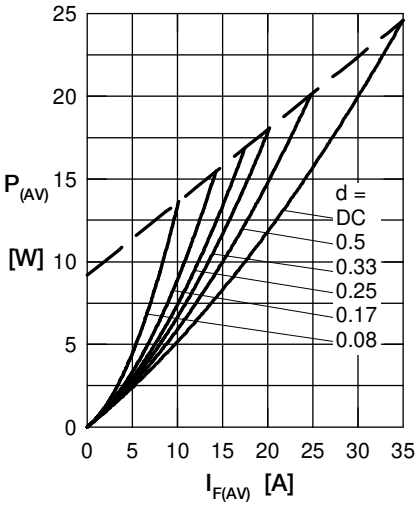

Fig. 5 Forward power loss characteristics

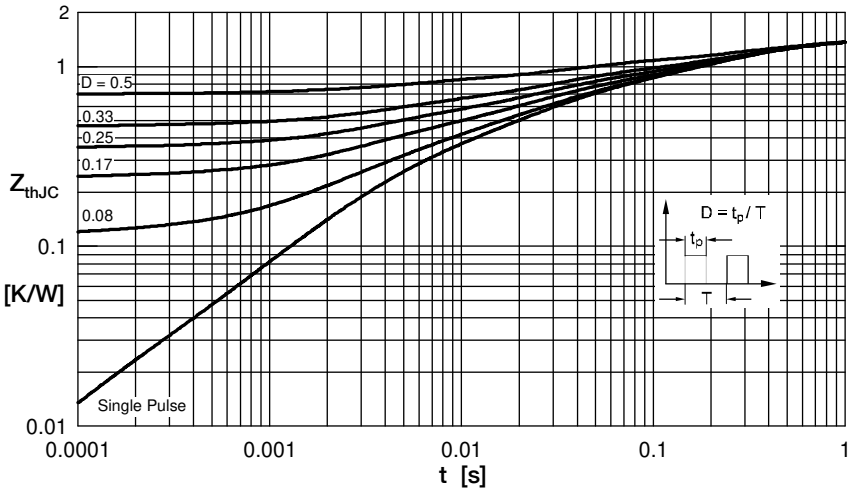

Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

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