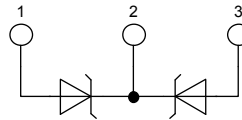


Schottky Diode

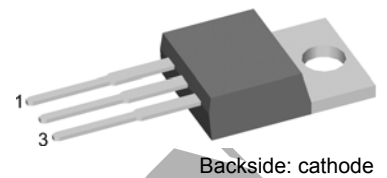
High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSSK28-01A



$$\begin{aligned} V_{RRM} &= 100 \text{ V} \\ I_{FAV} &= 2 \times 15 \text{ A} \\ V_F &= 0.64 \text{ V} \end{aligned}$$



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:

- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

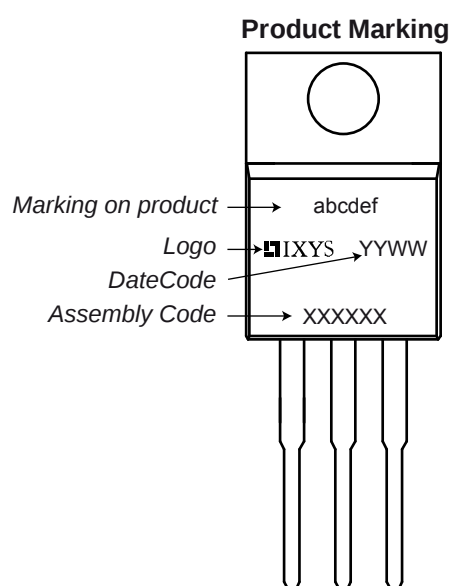
Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25^\circ\text{C}$			100	V
I_R	reverse current	$V_R = 100\text{V}$ $T_{VJ} = 25^\circ\text{C}$			500	μA
		$V_R = 100\text{V}$ $T_{VJ} = 125^\circ\text{C}$			5	mA
V_F	forward voltage	$I_F = 15\text{A}$ $T_{VJ} = 25^\circ\text{C}$			0.82	V
		$I_F = 30\text{A}$				V
		$I_F = 15\text{A}$ $T_{VJ} = 125^\circ\text{C}$			0.64	V
		$I_F = 30\text{A}$			0.78	V
I_{FAV}	average forward current	rectangular, $d = 0.5$ $T_C = 160^\circ\text{C}$			15	A
V_{F0}	threshold voltage	$T_{VJ} = 175^\circ\text{C}$				V
r_F	slope resistance					$\text{m}\Omega$
R_{thJC}	thermal resistance junction to case				1.40	K/W
T_{VJ}	virtual junction temperature		-55		175	$^\circ\text{C}$
P_{tot}	total power dissipation	$T_C = 25^\circ\text{C}$			105	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}$ (50 Hz), sine $T_{VJ} = 45^\circ\text{C}$			230	A
C_J	junction capacitance	$V_R = \text{tbd V}$; $f = 1 \text{ MHz}$ $T_{VJ} = 25^\circ\text{C}$		tbd		pF
E_{AS}	non-repetitive avalanche energy	$I_{AS} = 10 \text{ A}$; $L = 100 \mu\text{H}$ $T_{VJ} = 25^\circ\text{C}$			5	mJ
I_{AR}	repetitive avalanche current	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$			1	A

Recommended replacement:
DSA 30C100PB, DSA 60C100PB

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin ¹⁾			35	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.8	Nm
F_c	mounting force with clip		20		60	N

¹⁾ I_{RMS} is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.

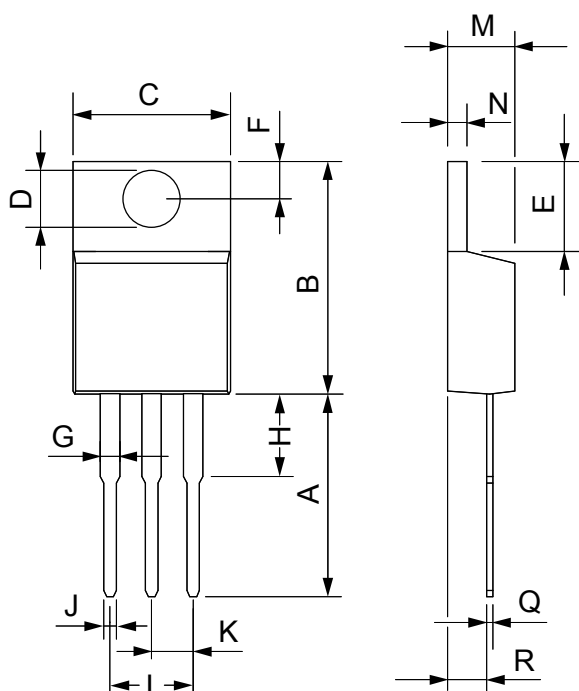
In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.



Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DSSK28-01A	DSSK28-01A	Tube	50	479381

Similar Part	Package	Voltage class
DSSK28-01AS	TO-263 (D2Pak)	100

Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.35	0.56	0.014	0.022
R	2.29	2.79	0.090	0.110

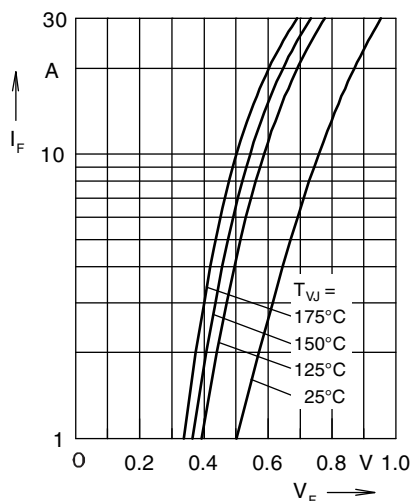


Fig. 1 Max. forward voltage drop characteristics

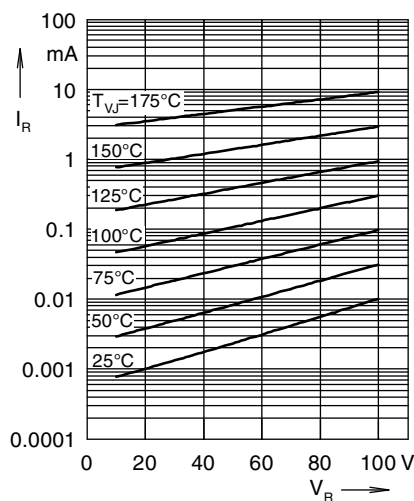


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

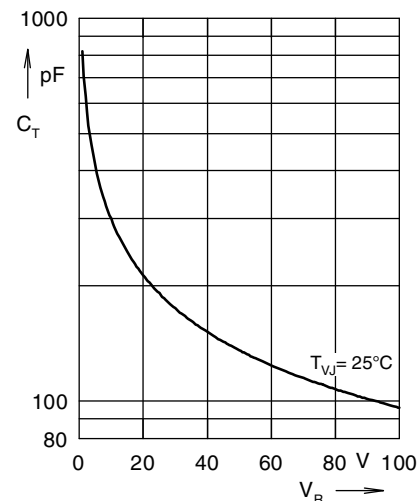


Fig. 3 Typ. junction capacitance C_T versus reverse voltage V_R

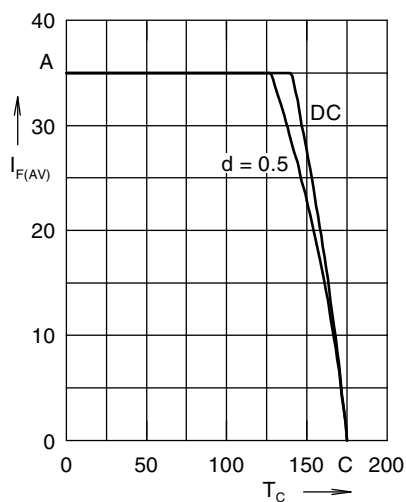


Fig. 4 Avg. forward current $I_{F(AV)}$ vs. case temperature T_C

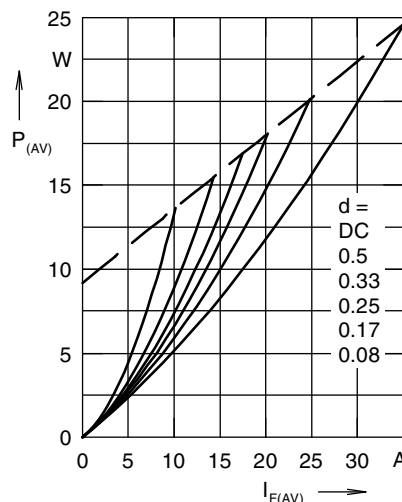


Fig. 5 Forward power loss characteristics

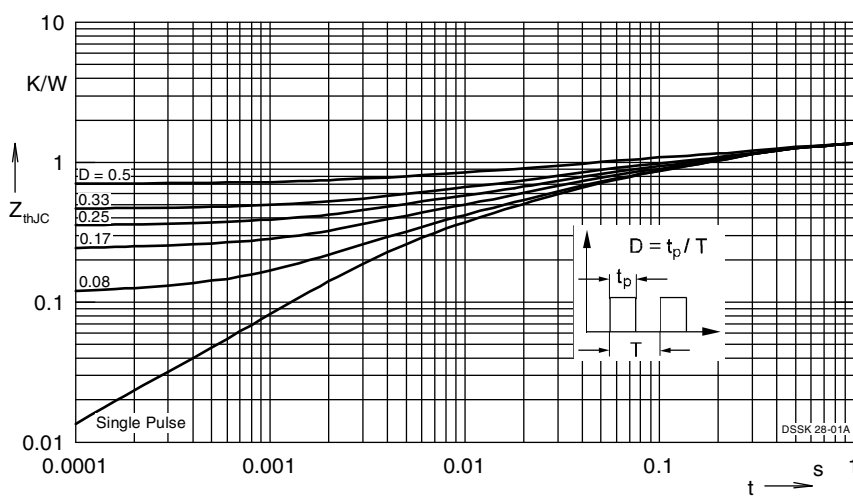


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode