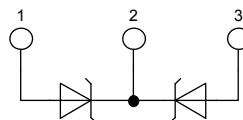


# Schottky Diode

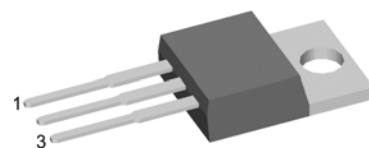
High Performance Schottky Diode  
Low Loss and Soft Recovery  
Common Cathode

Part number

DSSK28-01A



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



Backside: cathode

## 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:

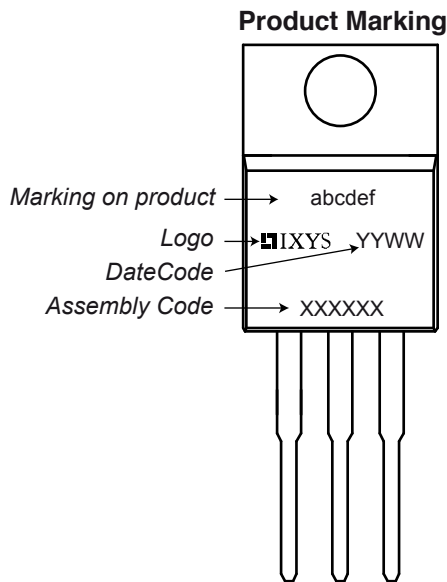
- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$V_{RRM}$	max. repetitive reverse voltage				100	V
$I_R$	reverse current	$V_R = 100\text{V}$			500	$\mu\text{A}$
		$V_R = 100\text{V}$			5	mA
$V_F$	forward voltage	$I_F = 15\text{A}$			0.82	V
		$I_F = 30\text{A}$				V
		$I_F = 15\text{A}$			0.64	V
		$I_F = 30\text{A}$			0.78	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$			15	A
$V_{FD}$	threshold voltage					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				105	W
$I_{FSM}$	max. forward surge current	$t = 10 \text{ ms}$ (50 Hz), sine			230	A
$C_J$	junction capacitance	$V_R = \text{tbd V}$ ; $f = 1 \text{ MHz}$		tbd		pF
$E_{AS}$	non-repetitive avalanche energy	$I_{AS} = 10 \text{ A}$ ; $L = 100 \mu\text{H}$			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 <sup>1)</sup>			35	A
$R_{thCH}$	thermal resistance case to heatsink			0.50		K/W
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				2		g
$M_D$	mounting torque		0.4		0.8	Nm
$F_C$	mounting force with clip		20		60	N

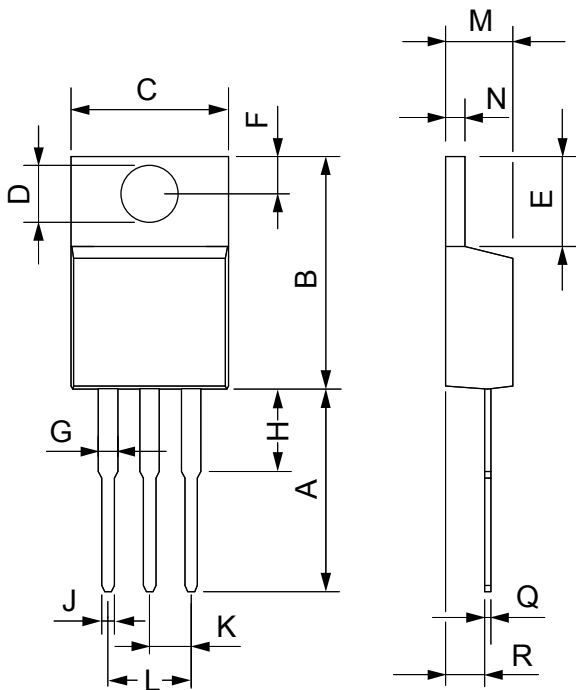
<sup>1)</sup>  $I_{RMS}$  is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.  
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.



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

NOT FOR

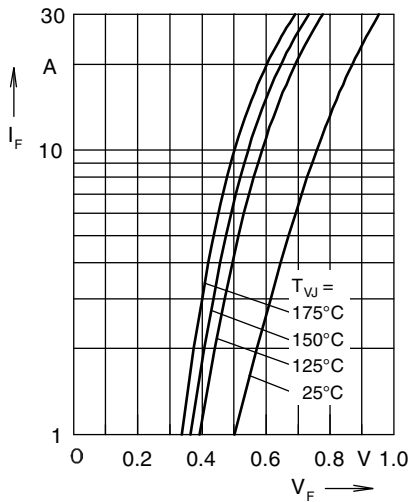


Fig. 1 Max. forward voltage drop characteristics

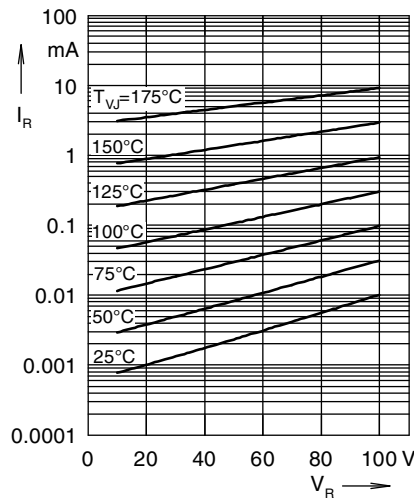


Fig. 2 Typ. reverse current  $I_R$  vs. reverse voltage  $V_R$

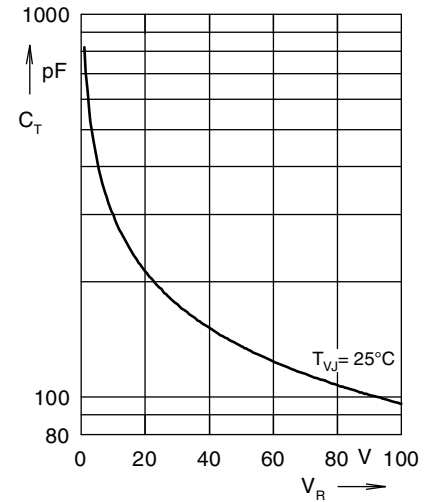


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

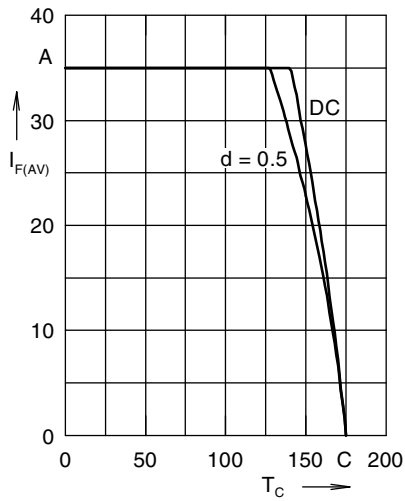


Fig. 4 Avg. forward current  $I_{F(AV)}$  vs. case temperature  $T_C$

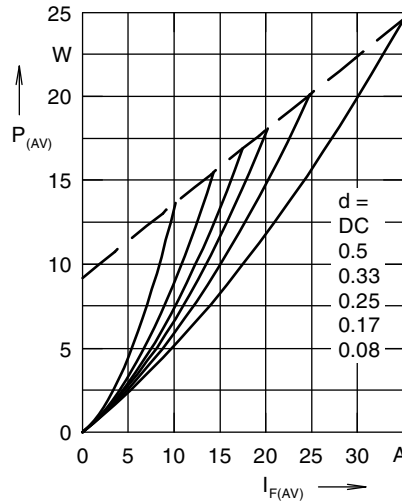


Fig. 5 Forward power loss characteristics

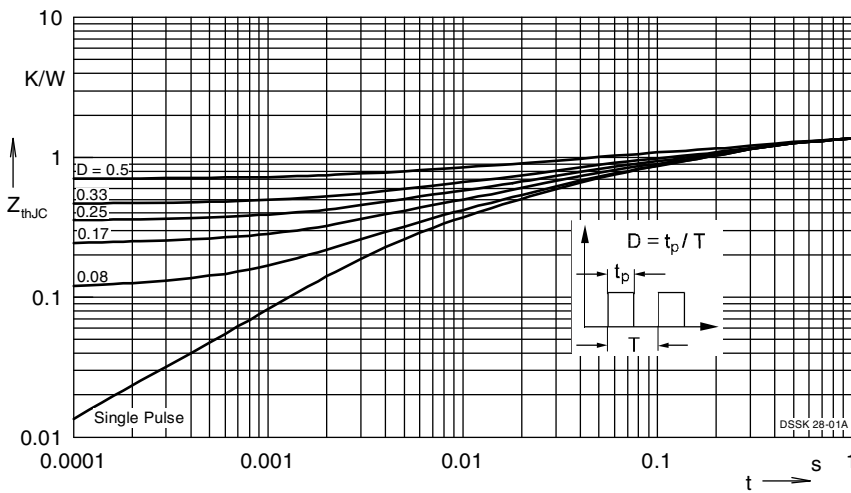


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode