

# Power Schottky Rectifier with common cathode

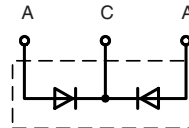
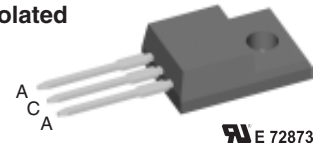
$$I_{FAV} = 2 \times 10 \text{ A}$$

$$V_{RRM} = 45 \text{ V}$$

$$V_F = 0.56 \text{ V}$$

## Preliminary data

$V_{RSM}$	$V_{RRM}$	Type
V	V	
45	45	DSSK 20-0045AM


**TO-220 Isolated**


Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$		35	A
$I_{FAV}$	$T_C = 145^\circ\text{C}$ ; rectangular, $d = 0.5$	10	A
$I_{FAV}$	$T_C = 145^\circ\text{C}$ ; rectangular, $d = 0.5$ ; per device	20	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	140	A
$E_{AS}$	$I_{AS} = 15 \text{ A}$ ; $L = 100 \mu\text{H}$ ; $T_{VJ} = 25^\circ\text{C}$ ; non repetitive	11	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_{RRM}$ typ.; $f = 10 \text{ kHz}$ ; repetitive	1.5	A
$(dv/dt)_{cr}$		1000	V/ $\mu\text{s}$
$T_{VJ}$		-55...+175	$^\circ\text{C}$
$T_{VJM}$		175	$^\circ\text{C}$
$T_{stg}$		-55...+150	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	35	W
Weight	typical	2	g

## Features

- International standard package
- Very low  $V_F$
- Extremely low switching losses
- Low  $I_{RM}$ -values
- Epoxy meets UL 94V-0

## Applications

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

## Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses

Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R$ ①	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$		0.3 mA
	$V_R = V_{RRM}$ ; $T_{VJ} = 125^\circ\text{C}$		2.5 mA
$V_F$	$I_F = 10 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.56 V
	$I_F = 10 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		0.69 V
	$I_F = 20 \text{ A}$ ; $T_{VJ} = 125^\circ\text{C}$		0.69 V
$R_{thJC}$		0.5	4.3 K/W
$R_{thCH}$			K/W

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0%  
Data according to IEC 60747 and per diode unless otherwise specified

Dimensions see Outlines.pdf

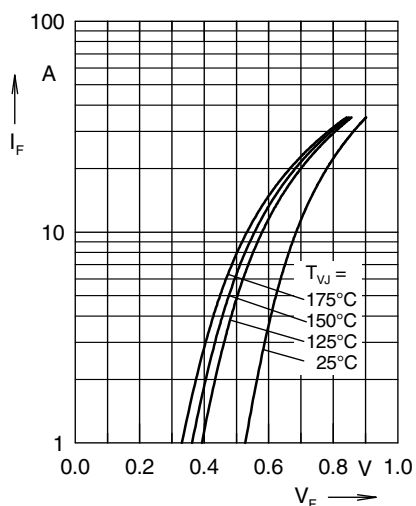


Fig. 1 Maximum forward voltage drop characteristics

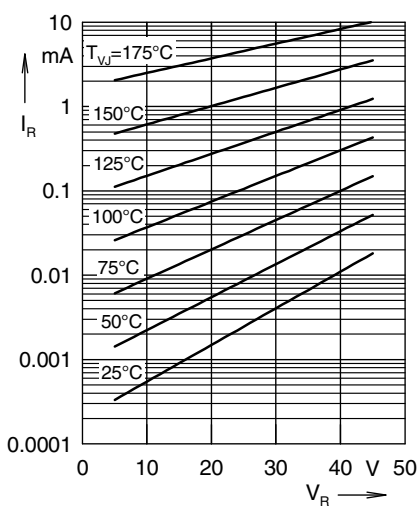


Fig. 2 Typ. value of reverse current  $I_R$  versus reverse voltage  $V_R$

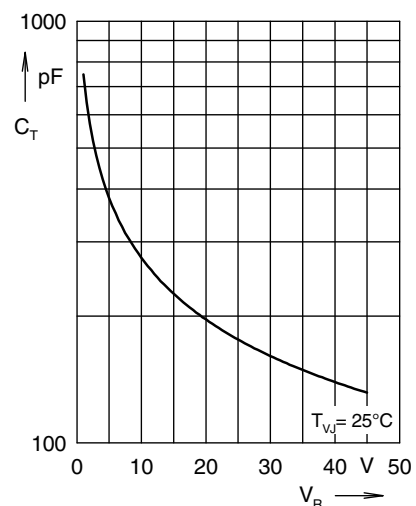
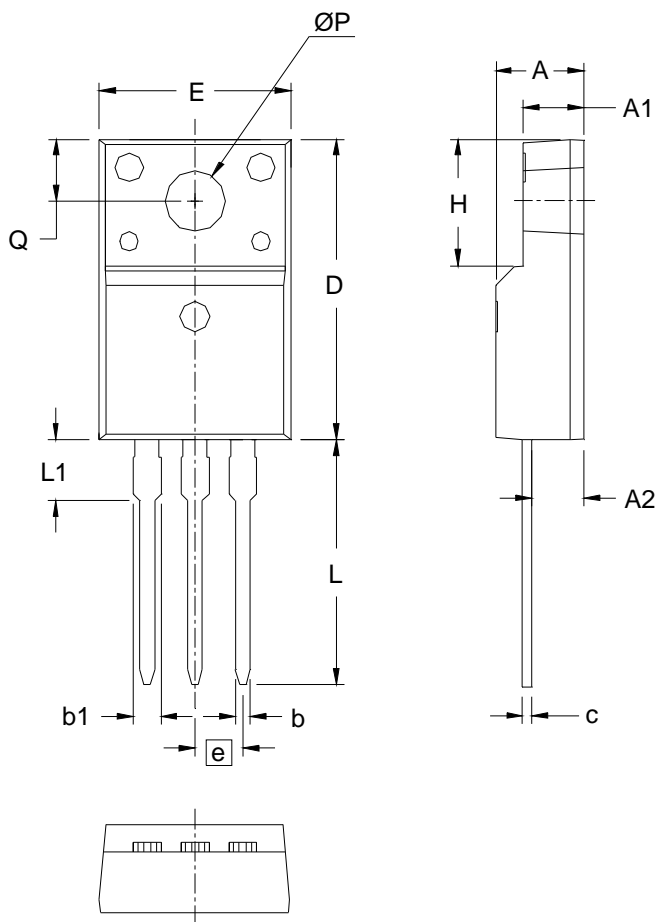


Fig. 3 Typ. junction capacitance  $C_T$  versus reverse voltage  $V_R$

Note: All curves are per diode



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.177	.193	4.50	4.90
A1	.092	.108	2.34	2.74
A2	.101	.117	2.56	2.96
b	.028	.035	0.70	0.90
b1	.050	.058	1.27	1.47
c	.018	.024	0.45	0.60
D	.617	.633	15.67	16.07
E	.392	.408	9.96	10.36
e	.100 BSC		2.54 BSC	
H	.255	.271	6.48	6.88
L	.499	.523	12.68	13.28
L1	.119	.135	3.03	3.43
$\text{ØP}$	.121	.129	3.08	3.28
Q	.126	.134	3.20	3.40