

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[IXYS Corporation](#)

[DSEK60-12A](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

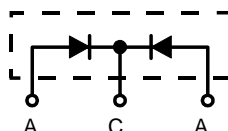


Common Cathode Fast Recovery Epitaxial Diode (FRED)

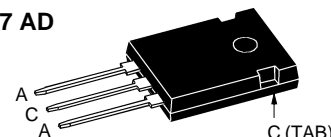
DSEK 60

$I_{FAVM} = 2x 26 A$
 $V_{RRM} = 1200 V$
 $t_{rr} = 40 ns$

V_{RSM}	V_{RRM}	Type
V	V	
1200	1200	DSEK 60-12A



TO-247 AD



A = Anode, C = Cathode, TAB = Cathode

Symbol	Test Conditions	Maximum Ratings	
I_{FRMS}	$T_{VJ} = T_{VJM}$	50	A
I_{FAVM} ①	$T_C = 85^\circ C$; rectangular, $d = 0.5$	26	A
I_{FRM}	$t_p < 10 \mu s$; rep. rating, pulse width limited by T_{VJM}	375	A
I_{FSM}	$T_{VJ} = 45^\circ C$; $t = 10 ms$ (50 Hz), sine	200	A
	$t = 8.3 ms$ (60 Hz), sine	210	A
	$T_{VJ} = 150^\circ C$; $t = 10 ms$ (50 Hz), sine	185	A
	$t = 8.3 ms$ (60 Hz), sine	195	A
I^2t	$T_{VJ} = 45^\circ C$; $t = 10 ms$ (50 Hz), sine	200	A ² s
	$t = 8.3 ms$ (60 Hz), sine	180	A ² s
	$T_{VJ} = 150^\circ C$; $t = 10 ms$ (50 Hz), sine	170	A ² s
	$t = 8.3 ms$ (60 Hz), sine	160	A ² s
T_{VJ}		-40...+150	°C
T_{VJM}		150	°C
T_{stg}		-40...+150	°C
P_{tot}	$T_C = 25^\circ C$	125	W
M_d	Mounting torque	0.8...1.2	Nm
Weight		6	g

Features

- International standard package JEDEC TO-247 AD
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low I_{RM} -values
- Soft recovery behavior
- Epoxy meets UL 94V-0

Applications

- Rectifiers in switch mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Advantages

- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Low losses
- Operating at lower temperature or space saving by reduced cooling

Symbol	Test Conditions	Characteristic Values	
		typ.	max.
I_R	$T_{VJ} = 25^\circ C$ $V_R = V_{RRM}$		750 μA
	$T_{VJ} = 25^\circ C$ $V_R = 0.8 \cdot V_{RRM}$		250 μA
	$T_{VJ} = 125^\circ C$ $V_R = 0.8 \cdot V_{RRM}$		7 mA
V_F	$I_F = 30 A$; $T_{VJ} = 150^\circ C$ $T_{VJ} = 25^\circ C$		2.2 V
			2.55 V
V_{To}	For power-loss calculations only		1.65 V
r_T	$T_{VJ} = T_{VJM}$		18.2 mΩ
R_{thJC}	0.25		0.9 K/W
R_{thCK}			K/W
R_{thJA}			70 K/W
t_{rr}	$I_F = 1 A$; $-di/dt = 100 A/\mu s$; $V_R = 30 V$; $T_{VJ} = 25^\circ C$	40	60 ns
I_{RM}	$V_R = 540 V$; $I_F = 30 A$; $-di_F/dt = 240 A/\mu s$ $L \leq 0.05 \mu H$; $T_{VJ} = 100^\circ C$	16	18 A

① I_{FAVM} rating includes reverse blocking losses at T_{VJM} , $V_R = 0.8 V_{RRM}$, duty cycle $d = 0.5$
 Data according to IEC 60747 and refer to a single diode unless otherwise stated.
 IXYS reserves the right to change limits, test conditions and dimensions

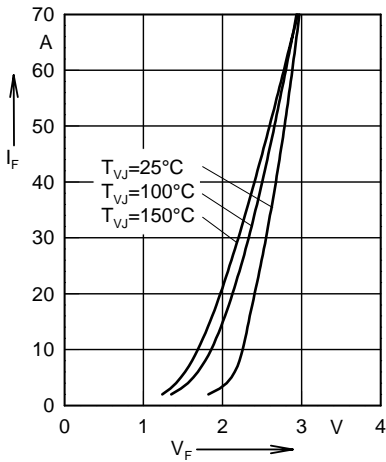


Fig. 1 Forward current versus voltage drop.

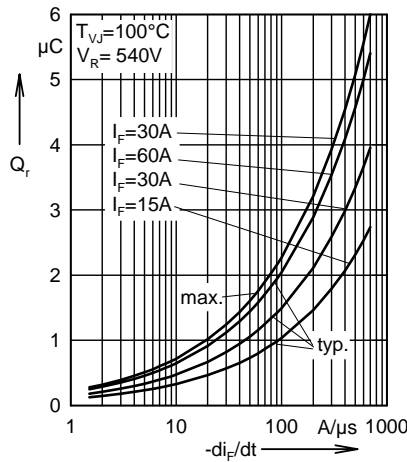


Fig. 2 Recovery charge versus $-di_F/dt$.

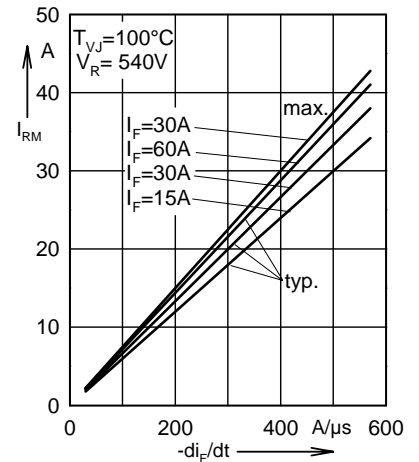


Fig. 3 Peak reverse current versus $-di_F/dt$.

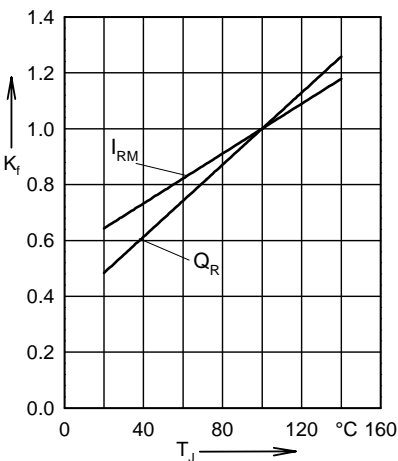


Fig. 4 Dynamic parameters versus junction temperature.

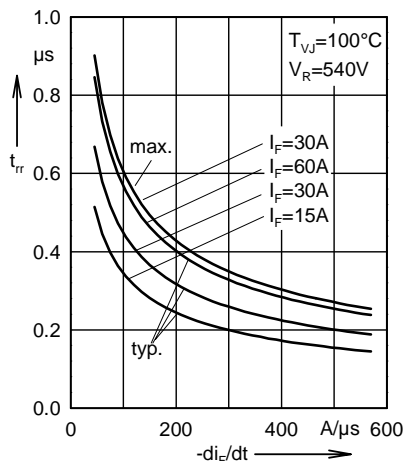


Fig. 5 Recovery time versus $-di_F/dt$.

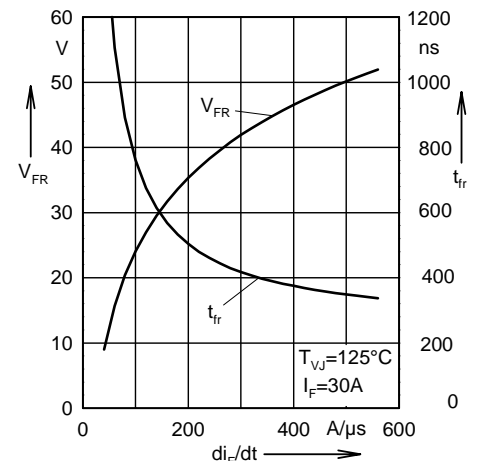


Fig. 6 Peak forward voltage versus di_F/dt .

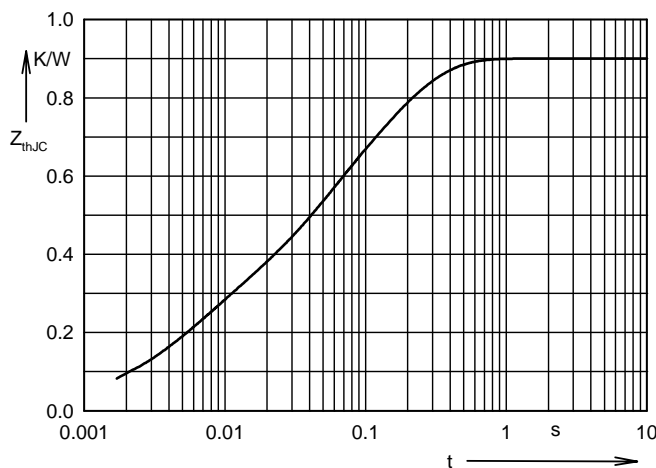
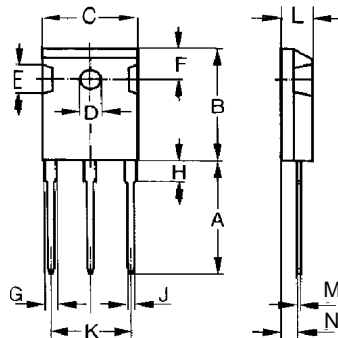


Fig. 7 Transient thermal impedance junction to case.

Dimensions



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	2.2	2.54	0.087	0.102