THE DATASHEET OF

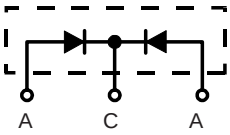
DSEC16-04AS

HiPerFRED™ Epitaxial Diode
with common cathode and soft recovery

I_{FAV} = 2x 10 A
V_{RRM} = 400 V
t_{rr} = 30 ns

Preliminary Data

V_{RSM} V	V_{RRM} V	Type
400	400	DSEC 16-04AS



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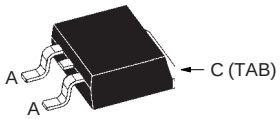

Symbol	Conditions	Maximum Ratings	
I_{FRMS}		35	A
I_{FAVM}	T_C = 140°C; rectangular, d = 0.5	10	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	60	A
E_{AS}	T_{VJ} = 25°C; non-repetitive I_{AS} = 2 A; L = 180 µH	0.5	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; f = 10 kHz; repetitive	0.2	A
T_{VJ}		-55...+175	°C
T_{VJM}		175	°C
T_{stg}		-55...+150	°C
P_{tot}	T_C = 25°C	60	W
Weight	typical	2	g

Symbol	Conditions	Characteristic Values typ.	max.	
I_R ①	T_{VJ} = 25°C; $V_R = V_{RRM}$		60	µA
	T_{VJ} = 150°C; $V_R = V_{RRM}$		0.25	mA
V_F ②	I_F = 10 A; T_{VJ} = 150°C		1.12	V
	T_{VJ} = 25°C		1.53	V
R_{thJC}			2.5	K/W
t_{rr}	I_F = 1 A; -di/dt = 100 A/µs; V_R = 30 V; T_{VJ} = 25°C	30		ns
I_{RM}	V_R = 100 V; I_F = 25 A; $-di_F/dt$ = 100 A/µs T_{VJ} = 100°C	2	2.4	A

Features

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

Applications

- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Advantages

- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low I_{RM} reduces:
  - Power dissipation within the diode
  - Turn-on loss in the commutating switch

Dimensions see IXYS Databook 2001

207

IXYS reserves the right to change limits, Conditions and dimensions.

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