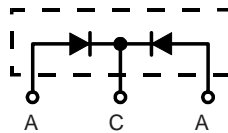


HiPerFRED™ Epitaxial Diode

with common cathode and soft recovery

Preliminary Data

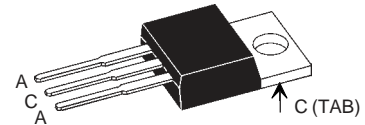
V_{RSM}	V_{RRM}	Type
V	V	
200	200	DSEC 29-02A
200	200	DSEC 29-02AS



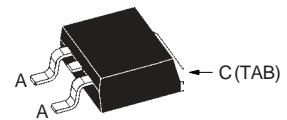
$$I_{FAV} = 2 \times 15 \text{ A}$$

$$V_{RRM} = 200 \text{ V}$$

$$t_{rr} = 25 \text{ ns}$$

TO-220 AB


A = Anode, C = Cathode, TAB = Cathode

TO-263 AB
(AS-Type)


Symbol	Conditions	Maximum Ratings	
I_{FRMS} I_{FAVM}	$T_C = 150^\circ\text{C}$; rectangular, $d = 0.5$	35 15	A A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	140	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 2.5 \text{ A}$; $L = 180 \mu\text{H}$	0.8	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.3	A
T_{VJ} T_{VJM} T_{stg}		-55...+175 175 -55...+150	$^\circ\text{C}$ $^\circ\text{C}$ $^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	95	W
M_d	mounting torque	0.45...0.55 4...5	Nm lb.in.
Weight	typical	2 / 4	g

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

Symbol	Conditions	Characteristic Values	
		typ.	max.
I_R ①	$T_{VJ} = 25^\circ\text{C}$; $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$; $V_R = V_{RRM}$	100 0.5	μA mA
V_F ②	$I_F = 15 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	0.86 1.06	V V
R_{thJC} R_{thCH}		0.5	1.6 K/W K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 100 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$	25	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 25 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	3.5	4.4 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
 ② Pulse Width = 300 μs , Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

IXYS reserves the right to change limits, test conditions and dimensions.

Dimensions see pages D4 - 85-86