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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# HiPerFRED™ Epitaxial Diode

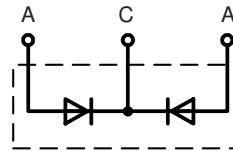
## with common cathode and soft recovery

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

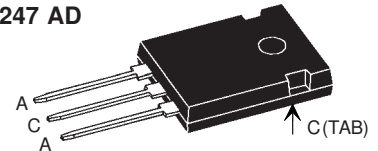
$$V_{RRM} = 400 \text{ V}$$

$$t_{rr} = 30 \text{ ns}$$

$V_{RSM}$ V	$V_{RRM}$ V	Type
400	400	DSEC 30-04A



TO-247 AD



A = Anode, C = Cathode, TAB = Cathode

Symbol	Conditions	Maximum Ratings	
$I_{FRMS}$ $I_{FAVM}$	$T_C = 145^\circ\text{C}$ ; rectangular, $d = 0.5$	50 15	A A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t_p = 10 \text{ ms}$ (50 Hz), sine	tbd	A
$E_{AS}$	$T_{VJ} = 25^\circ\text{C}$ ; non-repetitive $I_{AS} = \text{tbd A}$ ; $L = \text{tbd } \mu\text{H}$	tbd	mJ
$I_{AR}$	$V_A = 1.5 \cdot V_R \text{ typ.}$ ; $f = 10 \text{ kHz}$ ; repetitive	tbd	A
$T_{VJ}$		-55...+175	$^\circ\text{C}$
$T_{VJM}$		175	$^\circ\text{C}$
$T_{stg}$		-55...+150	$^\circ\text{C}$
$P_{tot}$	$T_C = 25^\circ\text{C}$	95	W
$M_d$	mounting torque	0.8...1.2	Nm
Weight	typical	6	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

Dimensions see Outlines.pdf

Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R$ ①	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ ; $T_{VJ} = 150^\circ\text{C}$		100 $\mu\text{A}$ 0.5 mA
$V_F$ ②	$I_F = 15 \text{ A}$ ; $T_{VJ} = 150^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$		1.06 V 1.47 V
$R_{thJC}$ $R_{thCH}$		0.25	1.6 K/W K/W
$t_{rr}$	$I_F = 1 \text{ A}$ ; $-di/dt = 100 \text{ A}/\mu\text{s}$ ; $V_R = 30 \text{ V}$ ; $T_{VJ} = 25^\circ\text{C}$	30	ns
$I_{RM}$	$V_R = 100 \text{ V}$ ; $I_F = 25 \text{ A}$ ; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ ; $T_{VJ} = 100^\circ\text{C}$	5.0	6.3 A

Pulse test: ① Pulse Width = 5 ms, Duty Cycle &lt; 2.0 %

② Pulse Width = 300  $\mu\text{s}$ , Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified.

**Recommended replacement:**  
**DPG 30C400HB**