



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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!



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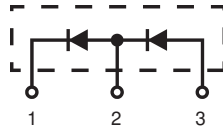
HiPerFRED™ Epitaxial Diode

$$I_{FAV} = 30 \text{ A}$$

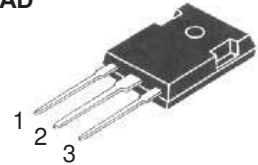
$$V_{RRM} = 1200 \text{ V}^{\textcircled{1}}$$

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

$V_{RRM}^{\textcircled{1}}$	V_{RRM}	Type
V	V	
1200	600	DSEE30-12A



TO-247 AD



Symbol	Conditions	Maximum Ratings	
I_{FRMS}		60	A
$I_{FAVM}^{\textcircled{1}}$	$T_C = 90^\circ\text{C}$; rectangular, $d = 0.5$	30	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	200	A
E_{AS}	$T_{VJ} = 25^\circ\text{C}$; non-repetitive $I_{AS} = 1.3 \text{ A}$; $L = 180 \mu\text{H}$	0.2	mJ
I_{AR}	$V_A = 1.5 \cdot V_R$ typ.; $f = 10 \text{ kHz}$; repetitive	0.1	A
T_{VJ}		-55...+175	$^\circ\text{C}$
T_{VJM}		175	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
T_L	1.6 mm (0.063 in) from case for 10 s	260	$^\circ\text{C}$
P_{tot}	$T_C = 25^\circ\text{C}$	165	W
M_d	Mounting Torque	0.9/6	Nm/lb.in.
Weight	typical	2	g

Features

- 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

Notes

- Please see DSEP 30-06A Data Sheet for characteristic curves.

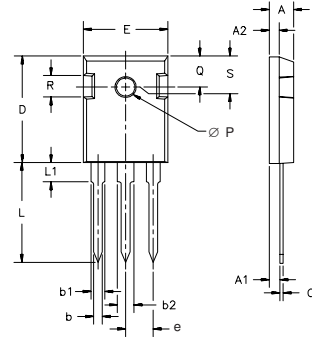
Symbol	Conditions	Characteristic Values	
		typ.	max.
$I_R^{\textcircled{1}\textcircled{2}}$	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$	200	μA
		2	mA
$V_F^{\textcircled{3}}$	$I_F = 30 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $T_{VJ} = 25^\circ\text{C}$	1.75	V
		2.5	V
R_{thJC}		0.9	K/W
R_{thCH}	0.25		K/W
t_{rr}	$I_F = 1 \text{ A}$; $-di/dt = 200 \text{ A}/\mu\text{s}$; $V_R = 30 \text{ V}$	30	ns
I_{RM}	$V_R = 100 \text{ V}$; $I_F = 50 \text{ A}$; $-di_F/dt = 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 100^\circ\text{C}$	4	A

Notes: Data given for $T_{VJ} = 25^\circ\text{C}$ and per diode unless otherwise specified

$\textcircled{1}$ Diodes connected in series

$\textcircled{2}$ Pulse test: pulse Width = 5 ms, Duty Cycle < 2.0 %

$\textcircled{3}$ Pulse test: pulse Width = 300 μs , Duty Cycle < 2.0 %

TO-247 AD Outline


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A ₁	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b ₁	1.65	2.13	.065	.084
b ₂	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
ØP	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	.242	BSC

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

IXYS MOSFETS and IGBTs are covered by one or more of the following U.S. patents:

4,835,592	4,881,106	5,017,508	5,049,961	5,187,117	5,486,715	6,306,728B1
4,850,072	4,931,844	5,034,796	5,063,307	5,237,481	5,381,025	