

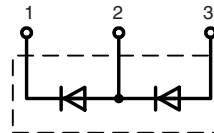
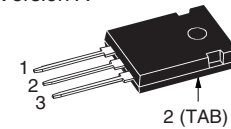
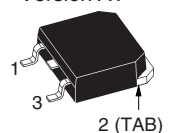
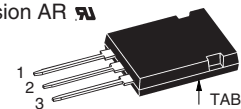
# Phase-leg Rectifier Diode

$$V_{RRM} = 1200/1600 \text{ V}$$

$$I_{F(RMS)} = 2 \times 70 \text{ A}$$

$$I_{F(AV)M} = 2 \times 45 \text{ A}$$

$V_{RSM}$	$V_{RRM}$	TO-247 AD	TO-268 AA	ISOPLUS247™
V	V	Type		
1300	1200	DSP 45-12A	DSP 45-12AT	
1700	1600	DSP 45-16A	DSP 45-16AT	DSP 45-16AR


**TO-247 AD**  
Version A

**TO-268 AA**  
Version AT

**ISOPLUS 247™**  
Version AR


1 = Cathode, 2 = Anode/Cathode, 3 = Anode

Symbol	Conditions	Maximum Ratings		
$I_{F(RMS)}$	$T_{VJ} = T_{VJM}$	70	A	
$I_{F(AV)M}$	$T_C = 130^\circ\text{C}; 180^\circ \text{ sine}$	45	A	
$I_{F(AV)M}^{(2)}$	$T_C = 100^\circ\text{C}; 180^\circ \text{ sine}$	43	A	
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine	480	A	
		$t = 8.3 \text{ ms}$ (60 Hz), sine	510	A
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine	420	A	
		$t = 8.3 \text{ ms}$ (60 Hz), sine	450	A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms}$ (50 Hz), sine	1150	A <sup>2</sup> s
		$t = 8.3 \text{ ms}$ (60 Hz), sine	1090	A <sup>2</sup> s
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms}$ (50 Hz), sine	880	A <sup>2</sup> s	
		$t = 8.3 \text{ ms}$ (60 Hz), sine	855	A <sup>2</sup> s
$T_{VJ}$		-40...+180	°C	
$T_{VJM}$		+180	°C	
$T_{VJ}^{(2)}$		-40...+150	°C	
$T_{VJM}^{(2)}$		+150	°C	
$T_{stg}$		-40...+150	°C	
$M_d^{(1)}$	Mounting torque	1.13/10	Nm/lb.in.	
$F_C^{(2+3)}$	Clip mounting force	1.13/10	Nm/lb.in.	
$V_{ISOL}^{(2)}$	50/60 Hz, RMS, $t = 1 \text{ minute}$ , leads-to-tab	2500	V~	
<b>Weight</b>	TO-268 / TO-247	4 / 6	g	

<sup>1)</sup> Version A; <sup>2)</sup> Version AR; <sup>3)</sup> Version AT

**Features**

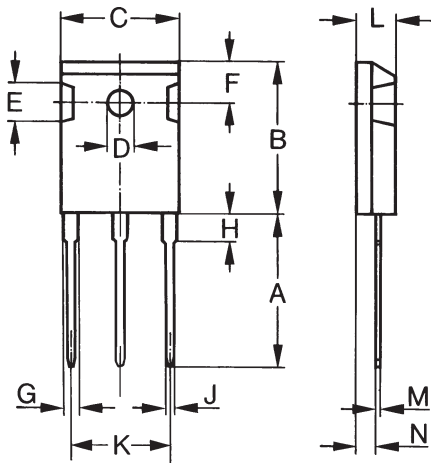
- International standard packages JEDEC TO-247 AD and TO-268 AA surface mountable
- For single and three phase bridge configuration
- Planar passivated chips
- Epoxy meets UL 94V-0 flammability classification
- Version AR isolated and UL registered E153432

Symbol	Conditions	Characteristic Values	
$I_R$	$T_{VJ} = 150^\circ\text{C}$ $V_R = V_{RRM}$	≤ 3	mA
$V_F$	$I_F = 40 \text{ A}; T_{VJ} = 25^\circ\text{C}$	≤ 1.23	V
$V_{T0}$	For power-loss calculations only	0.8	V
$r_T$	$T_{VJ} = T_{VJM}$	11	mΩ
$R_{thJC}$	DC current	0.55	K/W
$R_{thJC}^{(2)}$	DC current	0.7	K/W
$R_{thCH}$	DC current (with heatsink compound)	0.2	K/W
<b>a</b>	Maximum allowable acceleration	50	m/s <sup>2</sup>

Data according to IEC 60747 and refer to a single diode

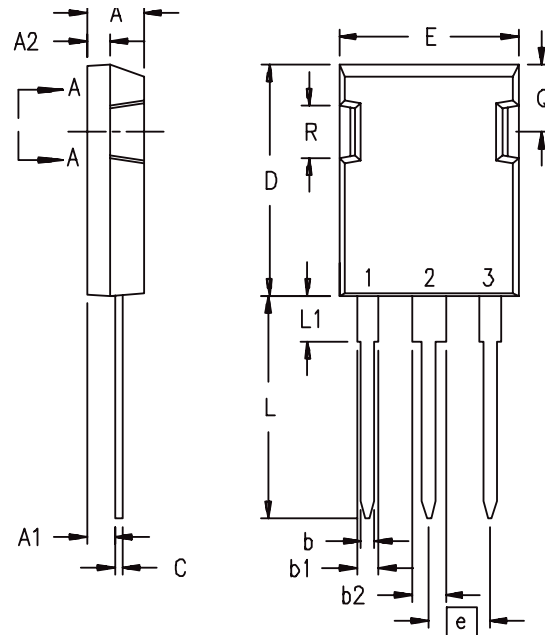
IXYS reserves the right to change limits, test conditions and dimensions

### TO-247 AD



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	1.5	2.49	0.087	0.102

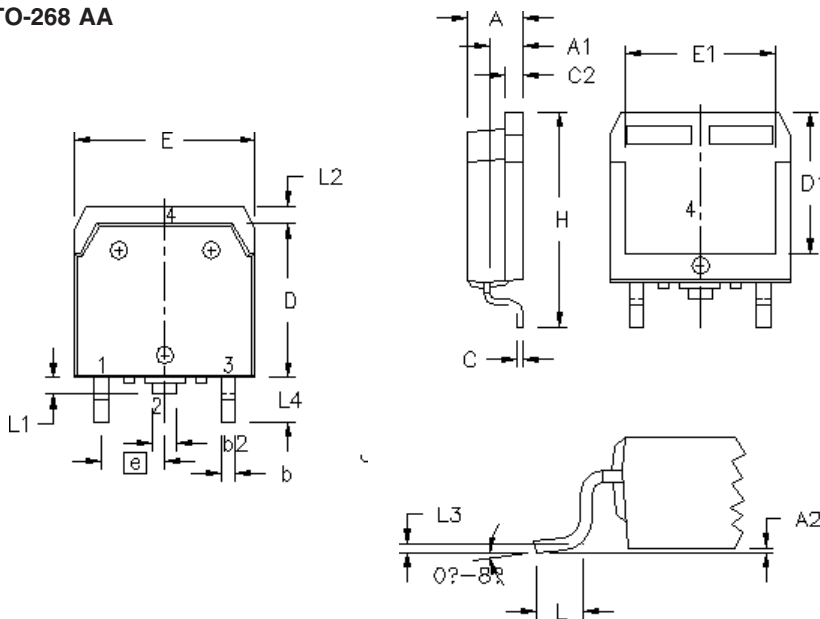
### ISOPLUS247™



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.83	5.21	.190	.205
A <sub>1</sub>	2.29	2.54	.090	.100
A <sub>2</sub>	1.91	2.16	.075	.085
b	1.14	1.40	.045	.055
b <sub>1</sub>	1.91	2.13	.075	.084
b <sub>2</sub>	2.92	3.12	.115	.123
C	0.61	0.80	.024	.031
D	20.80	21.34	.819	.840
E	15.75	16.13	.620	.635
e	5.45 BSC		.215 BSC	
L	19.81	20.32	.780	.800
L <sub>1</sub>	3.81	4.32	.150	.170
Q	5.59	6.20	.220	.244
R	4.32	4.83	.170	.190

Note:  
Backside is electr. isolated

### TO-268 AA



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.9	5.1	.193	.201
A <sub>1</sub>	2.7	2.9	.106	.114
A <sub>2</sub>	.02	.25	.001	.010
b	1.15	1.45	.045	.057
b <sub>2</sub>	1.9	2.1	.75	.83
C	.4	.65	.016	.026
D	13.80	14.00	.543	.551
E	15.85	16.05	.624	.632
E <sub>1</sub>	13.3	13.6	.524	.535
e	5.45 BSC		.215 BSC	
H	18.70	19.10	.736	.752
L	2.40	2.70	.094	.106
L <sub>1</sub>	1.20	1.40	.047	.055
L <sub>2</sub>	1.00	1.15	.039	.045
L <sub>3</sub>	0.25 BSC		.010 BSC	
L <sub>4</sub>	3.80	4.10	.150	.161