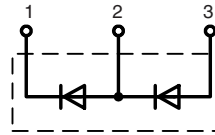
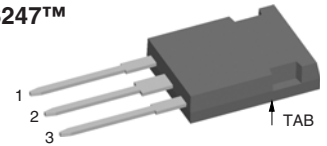


# Phase-leg Rectifier Diode

$V_{RRM} = 1600 \text{ V}$   
 $I_{F(RMS)} = 2 \times 70 \text{ A}$   
 $I_{F(AV)M} = 2 \times 45 \text{ A}$

$V_{RSM}$	$V_{RRM}$	Type
V	V	
1700	1600	DSP 45-16AR


**ISOPLUS247™**


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

Symbol	Conditions	Maximum Ratings	
$I_{F(RMS)}$	$T_{VJ} = T_{VJM}$	70	A
$I_{F(AV)M}$	$T_C = 100^\circ\text{C}; 180^\circ \text{ sine}$	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...+150	°C
$T_{VJM}$		+150	°C
$T_{stg}$		-40...+150	°C
$F_C$	Clip mounting force	20...120	N
$V_{ISOL}$	50/60 Hz, RMS, $t = 1 \text{ minute, leads-to-tab}$	3000	V~
<b>Weight</b>		6	g

### Features / Advantages

- Planar passivated chips
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

### Applications

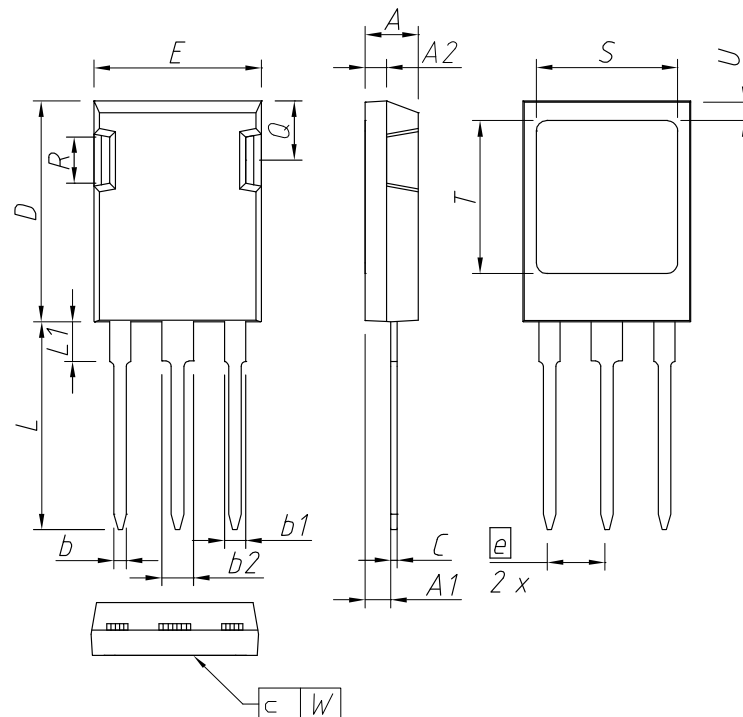
- Diode for main rectification
- For single and three phase bridge configuration

### Package

- Industry standard outline
- DCB isolated backside
- Isolation voltage 3000 V
- Epoxy meets UL 94V-0
- UL registered E72873
- RoHS compliant

Symbol	Conditions	Characteristic Values	
$I_R$	$T_{VJ} = 150^\circ\text{C}; V_R = V_{RRM}$	$\leq 3$	mA
$V_F$	$I_F = 40 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq 1.23$	V
$V_{T0}$	For power-loss calculations only	0.8	V
$r_T$	$T_{VJ} = T_{VJM}$	11	mΩ
$R_{thJC}$	DC current	0.7	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

**ISOPLUS247™**


DIM.	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	4,83	5,21	0,190	0,205
A1	2,29	2,54	0,090	0,100
A2	1,91	2,16	0,075	0,085
b	1,14	1,40	0,045	0,055
b1	1,91	2,15	0,075	0,085
b2	2,92	3,20	0,115	0,126
C	0,61	0,83	0,024	0,033
D	20,80	21,34	0,819	0,840
E	15,75	16,13	0,620	0,635
e	5,45 BSC		0,215 BSC	
L	19,81	20,60	0,780	0,811
L1	3,81	4,38	0,150	0,172
Q	5,59	6,20	0,220	0,244
R	4,32	4,85	0,170	0,191
S	13,21	13,72	0,520	0,540
T	15,75	16,26	0,620	0,640
U	1,65	2,03	0,065	0,080
W	-	0,10	-	0,004

The convex bow of substrate is typ. < 0.04 mm over plastic surface level of device bottom side

This drawing will meet all dimensions requirement of JEDEC outline TO-247 AD except screw hole and except Lmax.