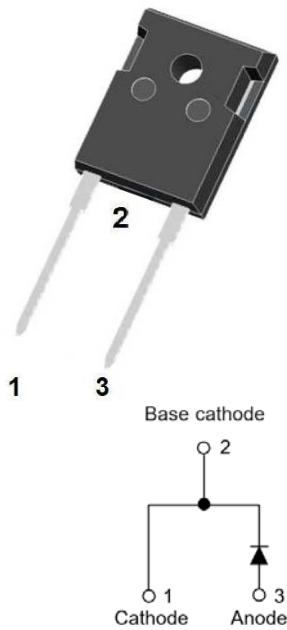


## General Purpose Rectifier Diodes



### Features

- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Application

- Input rectification

### Mechanical Data

- **Package:** TO-247-2L  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

### ■ Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	45EPS16
Device marking code			45EPS16
Repetitive Peak Reverse Voltage	VRRM	V	1600
Average Rectified Output Current @60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	45
Surge(Non-repetitive) Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	600
Current Squared Time @1ms≤t≤10ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> .s.	1494
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	45EPS16
Maximum instantaneous forward voltage	V <sub>FM</sub>	V	I <sub>FM</sub> =45.0A T <sub>a</sub> =25°C	1.4
			I <sub>FM</sub> =45.0A T <sub>a</sub> =125°C	1.3
Maximum DC reverse current at rated DC blocking voltage	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =VRRM T <sub>a</sub> =25°C	10
	I <sub>RRM2</sub>	mA	V <sub>RM</sub> =VRRM T <sub>a</sub> =125°C	1.0
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	110



# 45EPS16

## ■ Thermal Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified )

PARAMETER		SYMBOL	UNIT	45EPS16
Thermal Resistance	Between junction and ambient	$R_{\theta J-A}$	$^\circ\text{C/W}$	40
	Between junction and case	$R_{\theta J-C}$		5

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
45EPS16	Approximate 6.0	30	360	1800	Tube

## ■ Characteristics (Typical)

FIG.1:  $I_o$ -TC Curve

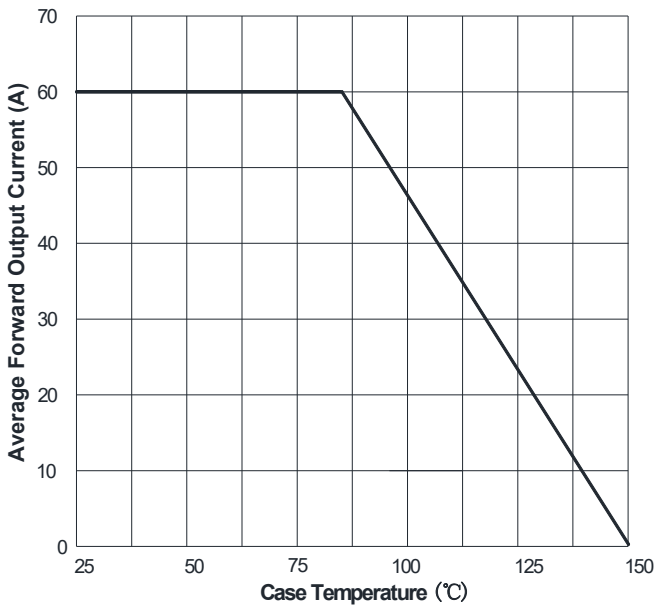


FIG2: Surge Forward Current Capability

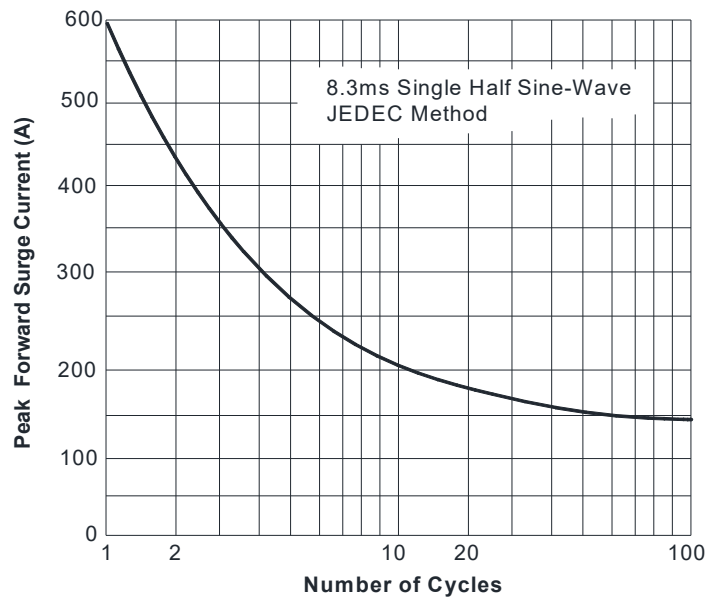


FIG3: Typical Forward Voltage

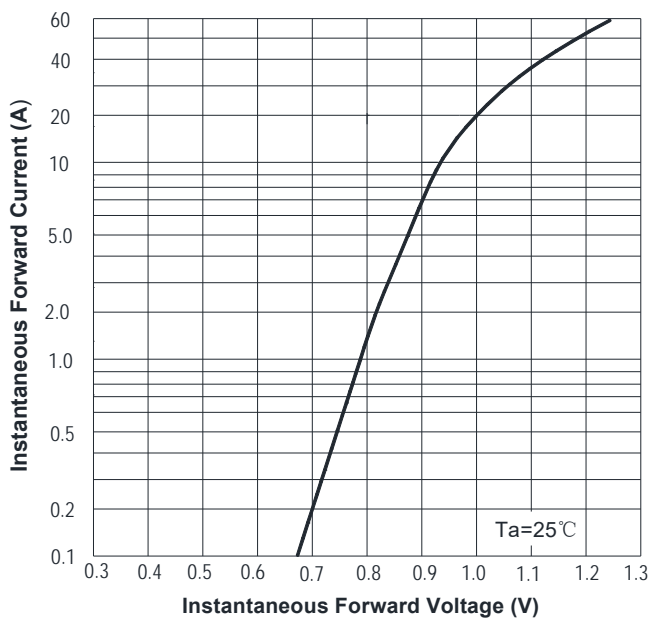
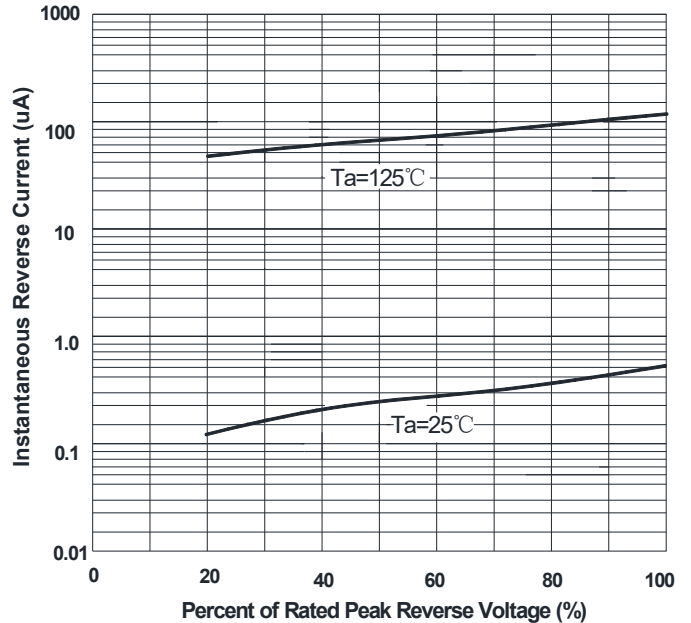


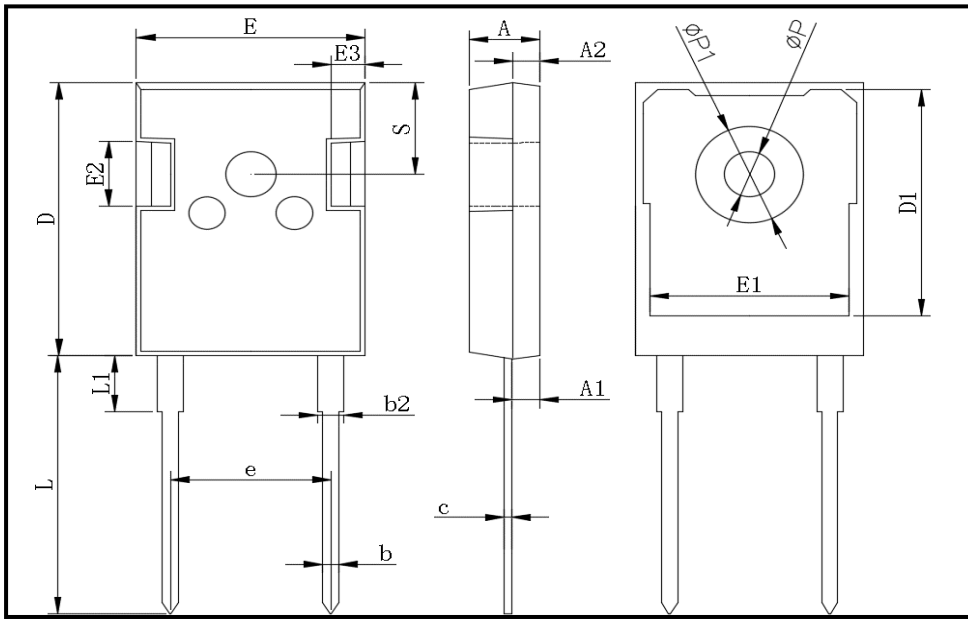
FIG.4: Typical Reverse Characteristics





# 45EPS16

## ■Outline Dimensions



TO-247-2L		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.00	1.40
b2	1.91	2.21
c	0.50	0.70
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88 TYP	
L	19.62	20.22
L1	-	4.30
φ P	3.40	3.80
φ P1	-	7.30
S	6.15 TYP	



## 45EPS16

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.