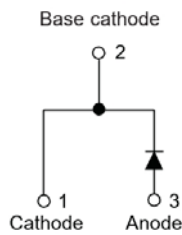
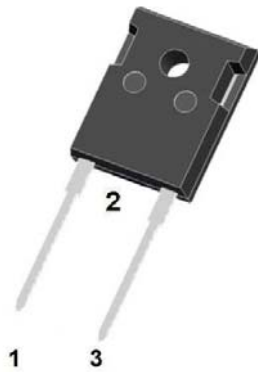


## General Purpose Rectifier Diodes



### 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-247AC  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

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

PARAMETER	SYMBOL	UNIT	90EPS16A
Device marking code			90EPS16A
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	1600
Maximum RMS Voltage	V <sub>RMS</sub>	V	1120
Maximum DC Blocking Voltage	V <sub>DC</sub>	V	1600
Average Rectified Output Current @60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	90
Surge(Non-repetitive) Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	1300
Current Squared Time @1ms≤t≤10ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s.	7013
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V <sub>FM</sub>	V	I <sub>FM</sub> =45.0A	0.7	0.93	1.0
			I <sub>FM</sub> =90.0A	-	1.03	1.1
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	mA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =25°C	-	-	0.1
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =125°C	-	-	1
Junction Capacitance	C <sub>j</sub>	pF	1MHz and Applied on 4.0VD.C	-	421	-



# 90EPS16A

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

PARAMETER		SYMBOL	UNIT	90EPS16A
Typical Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	0.33

## ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>C</sub> Curve

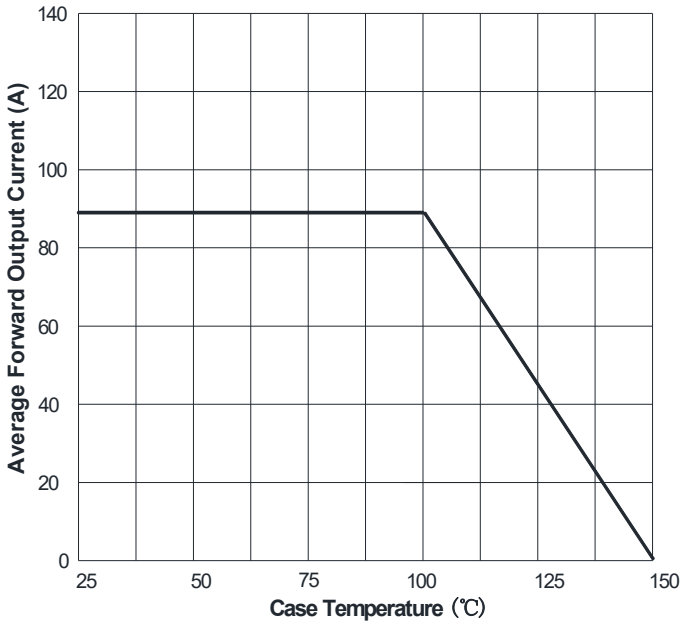


FIG.2: Surge Forward Current Capability

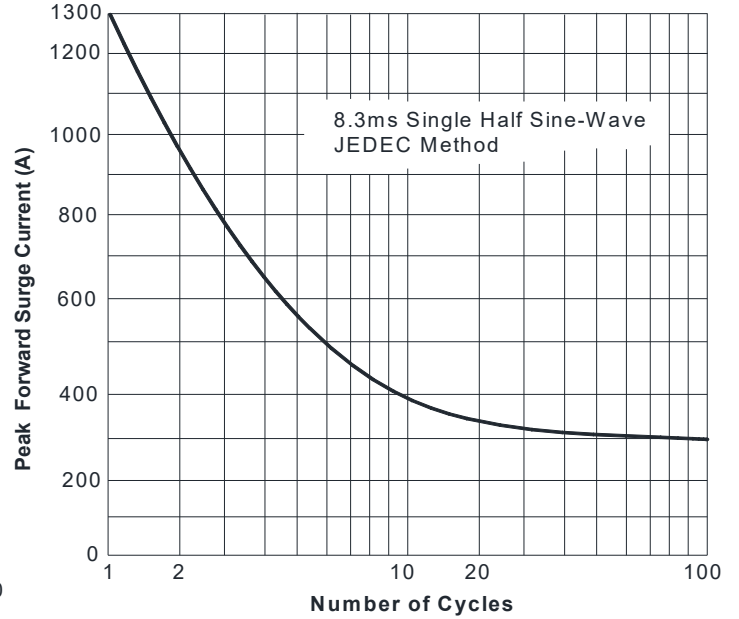


FIG.3: Typical Forward Voltage

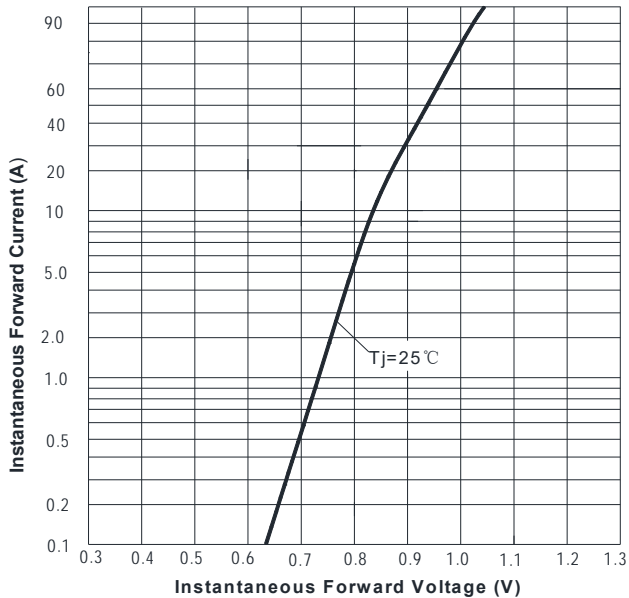
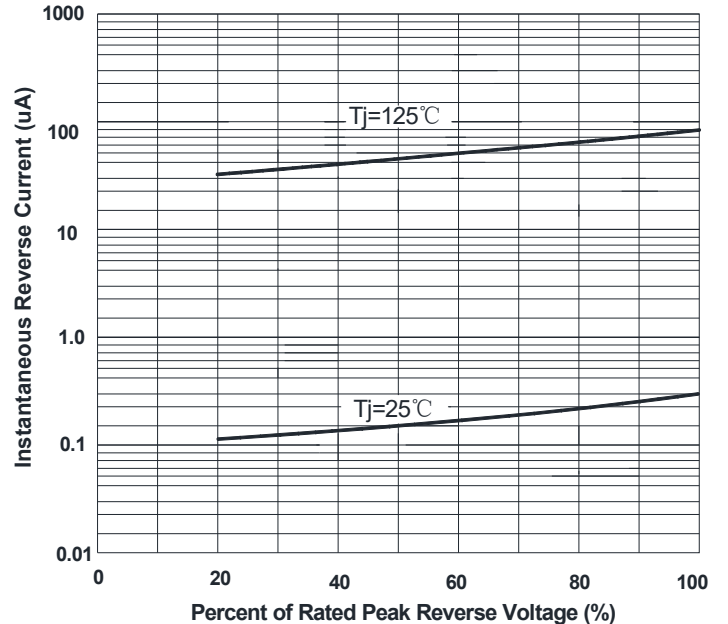


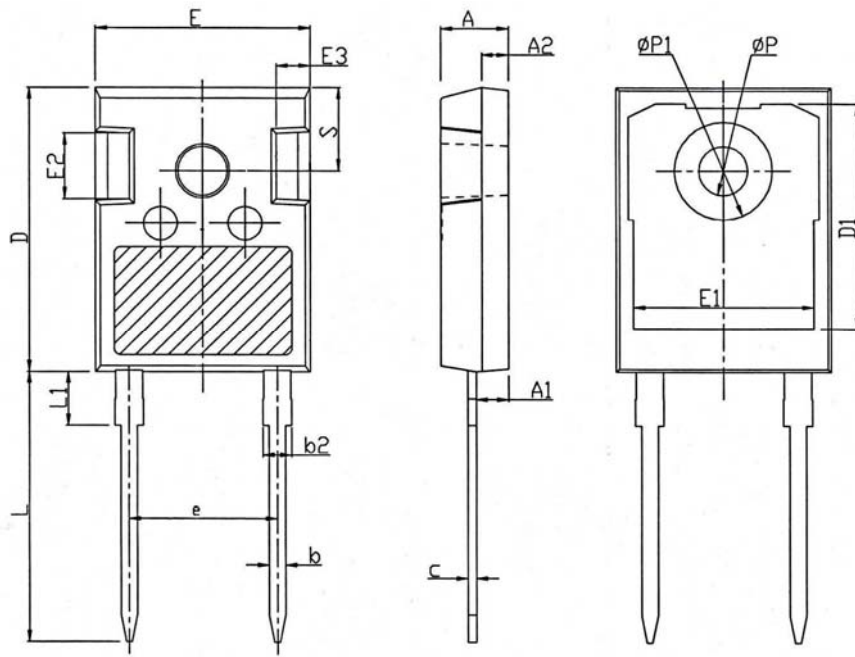
FIG.4: Typical Reverse Characteristics





# 90EPS16A

## ■Outline Dimensions



TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
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	10.88BSC	
L	19.62	20.22
L1	-	4.30
$\phi P$	3.40	3.80
$\phi P1$	-	7.30
S	6.15BSC	



## 90EPS16A

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