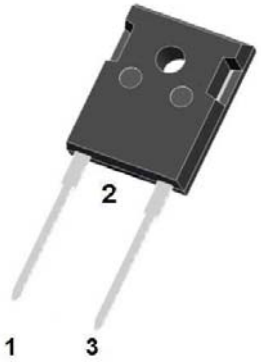
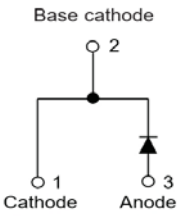
General Purpose Rectifier Diodes





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 (Tj=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	90EPS12	90EPS16	90EPS19
Device marking code			90EPS12	90EPS16	90EPS19
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	1200	1600	1900
Maximum RMS Voltage	V_{RMS}	V	840	1120	1330
Maximum DC Blocking Voltage	V_{DC}	V	1200	1600	1900
Average Rectified Output Current @60Hz half sine-wave, R-load, Tc (FIG.1)	Io	A	90		
Surge(Non-repetitive) Forward Current @10ms half sine-wave, 1 cycle, Tj=25℃	I_{FSM}	A	1400		
Current Squared Time @1ms≤t≤10ms Tj=25℃	I^2t	A^2s.	9800		
Storage Temperature	T_{stg}	℃	-55 ~ +150		
Junction Temperature	Tj	℃	-55 ~ +150		

■Electrical Characteristics (Tj=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	I_{FM}=45.0A		1.00	1.1
			I_{FM}=90.0A	-	1.15	1.3
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	uA	$V_{RM}=V_{RRM}$ Tj=25℃	-	-	10
			$V_{RM}=V_{RRM}$ Tj=125℃	-	-	1000
Junction Capacitance	Cj	pF	1MHz and Applied on 4.0VD.C	-	325	-

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	90EPS19
Typical Thermal Resistance Between junction and case	$R_{\theta J-C}$	℃/W	0.2

■Characteristics (Typical)

FIG.1: Io-TC Curve

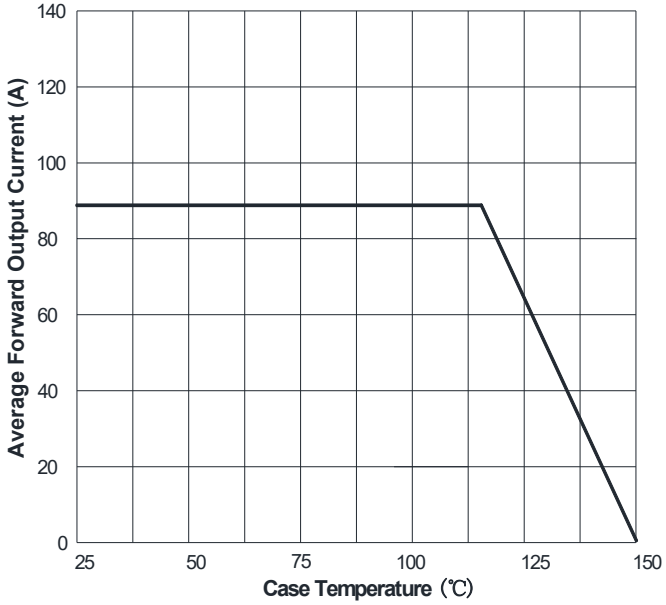


FIG2:Surge Forward Current Capability

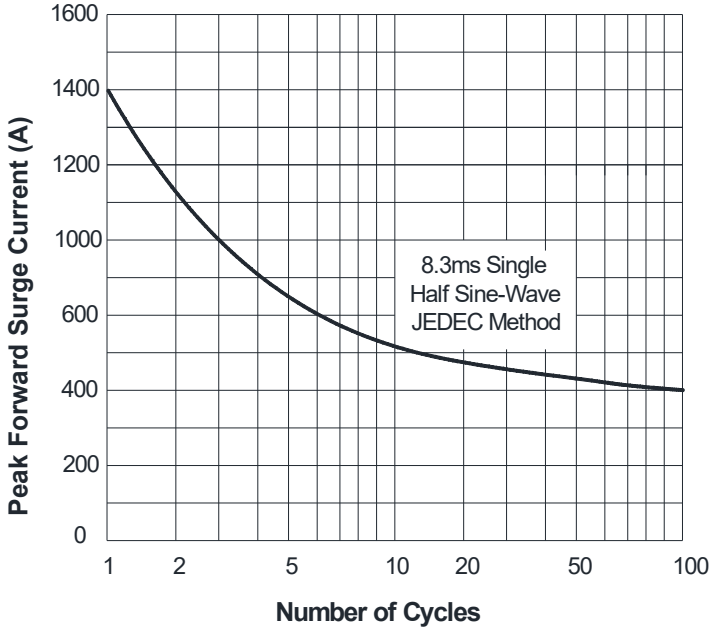


FIG3: Typical Forward Voltage

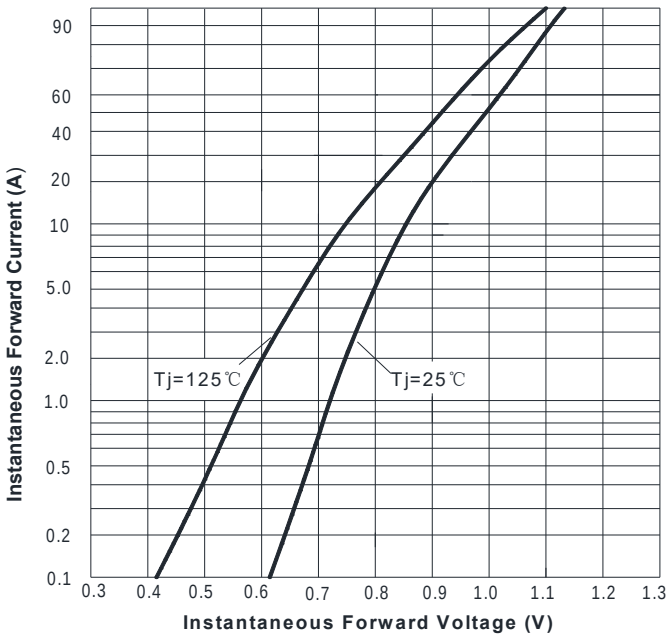
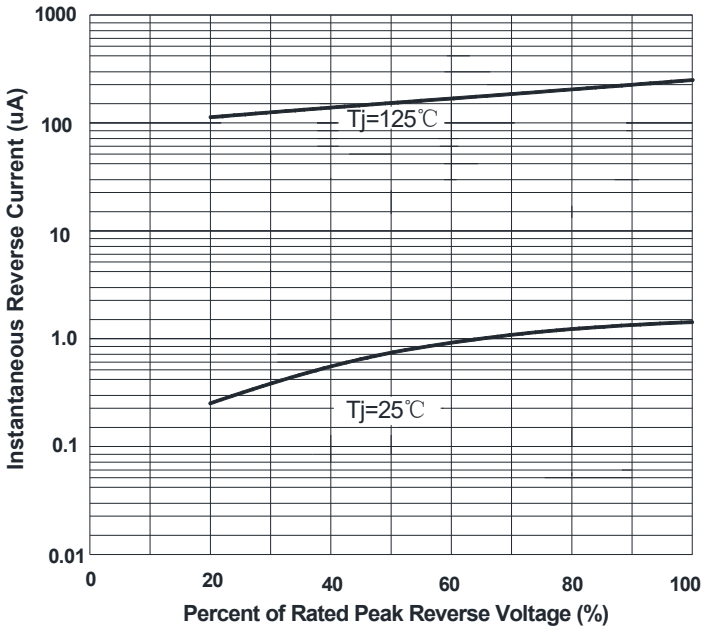
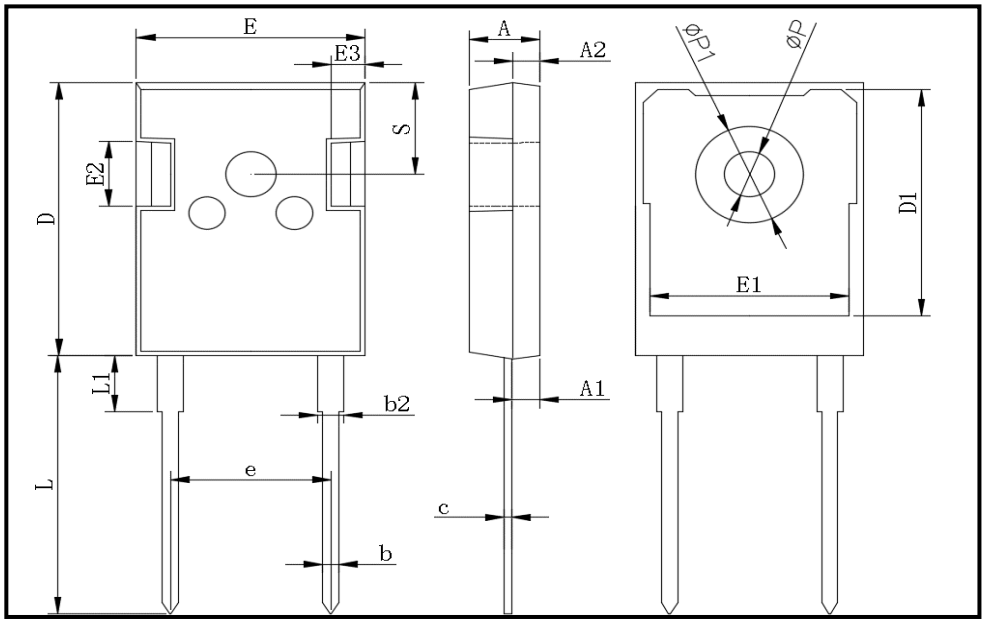


FIG.4: Typical Reverse Characteristics



■Outline Dimensions



TO-247AC		
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
ϕP	3.40	3.80
ϕP1	-	7.30
S	6.15 TYP	

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.
Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.