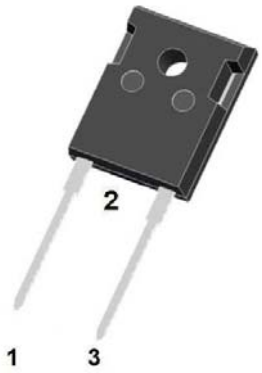
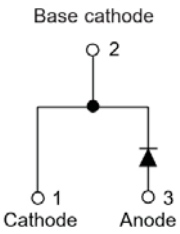
General Purpose Rectifier Diodes





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 (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	90EPS16
Device marking code			90EPS16
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	1600
Maximum RMS Voltage	V_{RMS}	V	1120
Maximum DC Blocking Voltage	V_{DC}	V	1600
Average Rectified Output Current @60Hz half sine-wave, R-load, Tc (FIG.1)	Io	A	90
Surge(Non-repetitive) Forward Current @60Hz half sine-wave, 1 cycle, Ta=25℃	I_{FSM}	A	1300
Current Squared Time @1ms≤t≤10ms Tj=25℃	I^2t	A^2s.	7013
Storage Temperature	T_{stg}	℃	-55 ~ +150
Junction Temperature	Tj	℃	-55 ~ +150

■Electrical Characteristics (Ta=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	0.7	0.95	1.1
			I_{FM}=90.0A	-	1.05	1.3
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	mA	V_{RM}=V_{RRM} Ta=25℃	-	-	0.1
	I_{RRM2}		V_{RM}=V_{RRM} Ta=125℃	-	-	1
Junction Capacitance	Cj	pF	1MHz and Applied on 4.0VD.C	-	362	-

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

PARAMETER		SYMBOL	UNIT	90EPS16
Typical Thermal Resistance	Between junction and case	$R_{\theta J\text{-}C}$	℃/W	0.2

■Characteristics (Typical)

FIG.1: Io-TC Curve

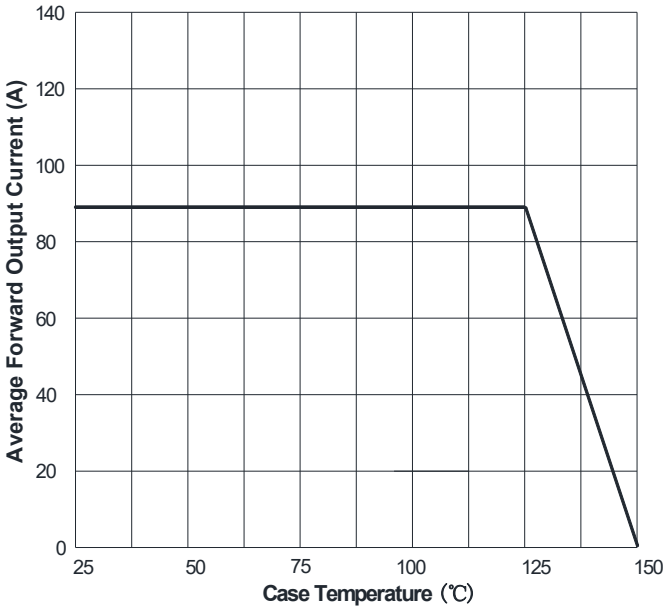


FIG2:Surge Forward Current Capability

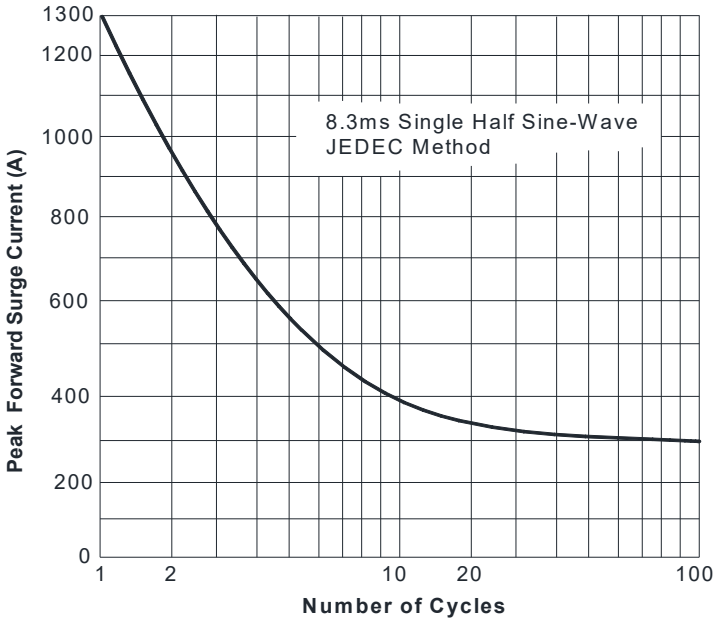


FIG3: Typical Forward Voltage

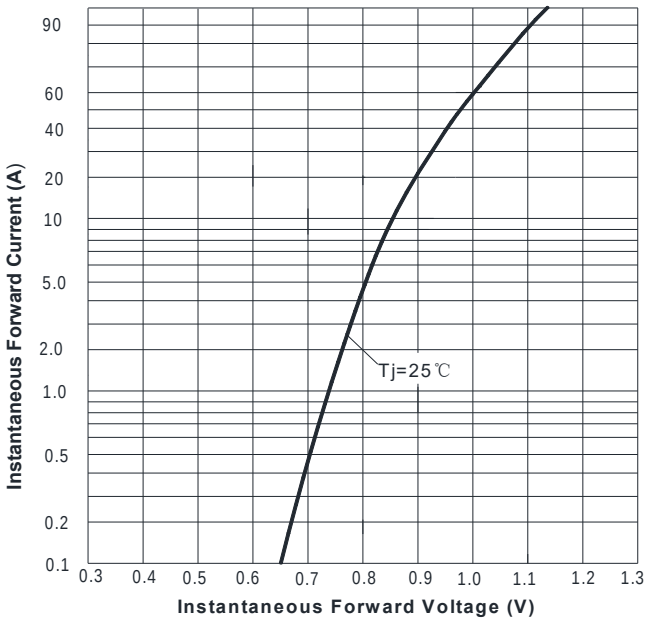
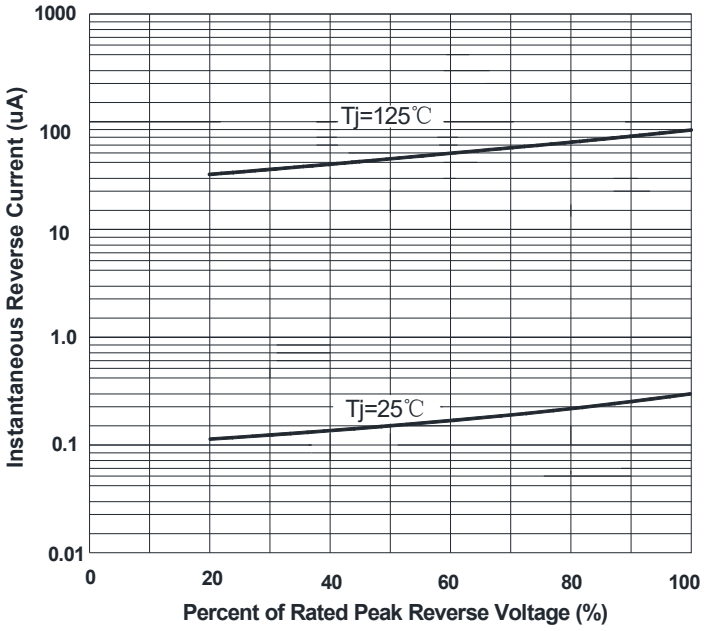
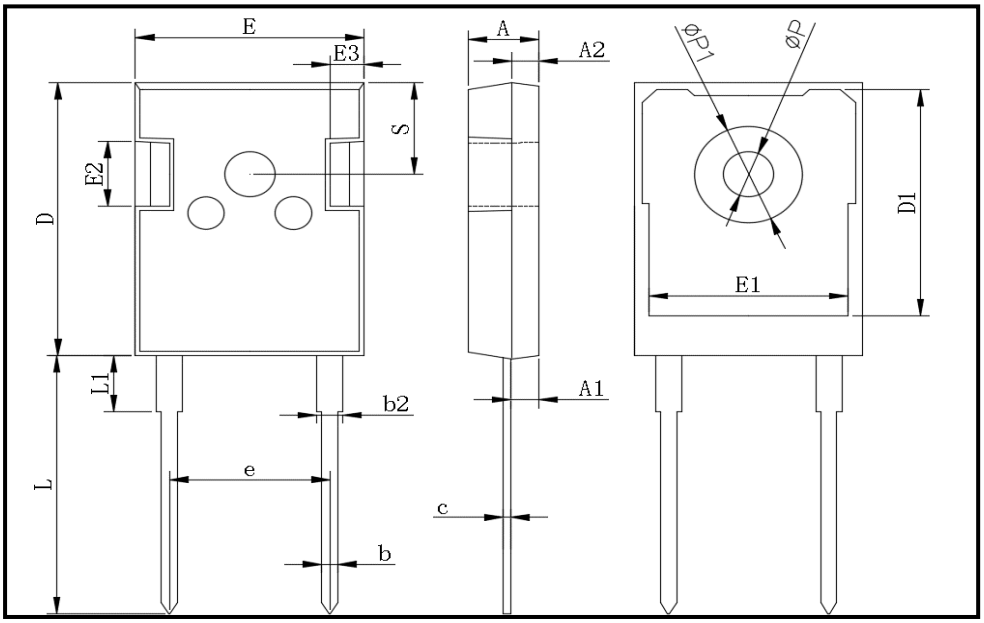


FIG.4: Typical Reverse Characteristics



■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	

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