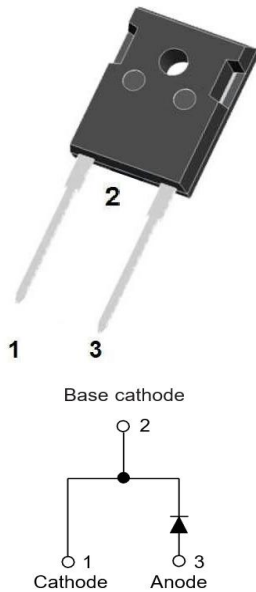


General Purpose Rectifier Diodes



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_j=25°C 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, T _c (FIG.1)	I _O	A	90		
Surge(Non-repetitive) Forward Current @10ms half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	1400		
Current Squared Time @1ms≤t≤10ms T _j =25°C	I ² t	A ² s.	9800		
Storage Temperature	T _{stg}	°C	-55 ~ +150		
Junction Temperature	T _j	°C	-55 ~ +150		

■Electrical Characteristics (T_j=25°C 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} T _j =25°C	-	-	10
			V _{RM} =V _{RRM} T _j =125°C	-	-	1000
Junction Capacitance	C _j	pF	1MHz and Applied on 4.0VD.C	-	325	-



90EPS12 THRU 90EPS19

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	90EPS19
Typical Thermal Resistance Between junction and case	R _{θJ-C}	°C/W	0.2

■ Characteristics (Typical)

FIG.1: I_o-T_C Curve

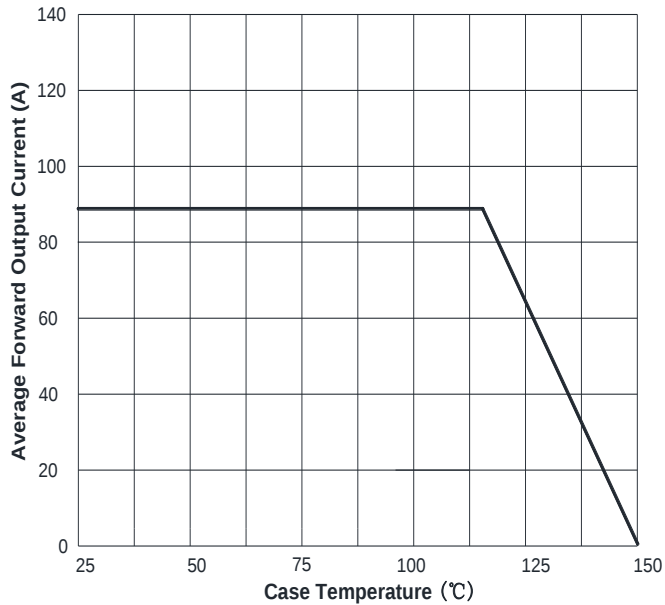


FIG2: Surge Forward Current Capability

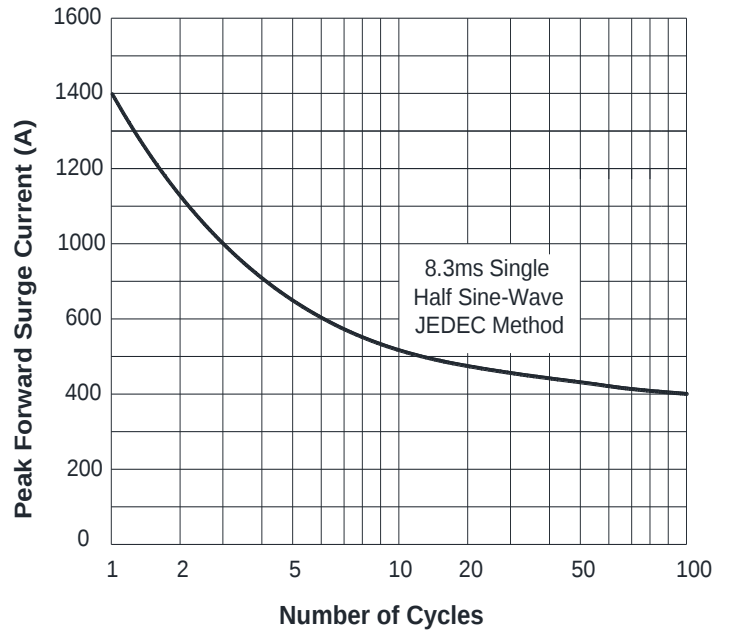


FIG3: Typical Forward Voltage

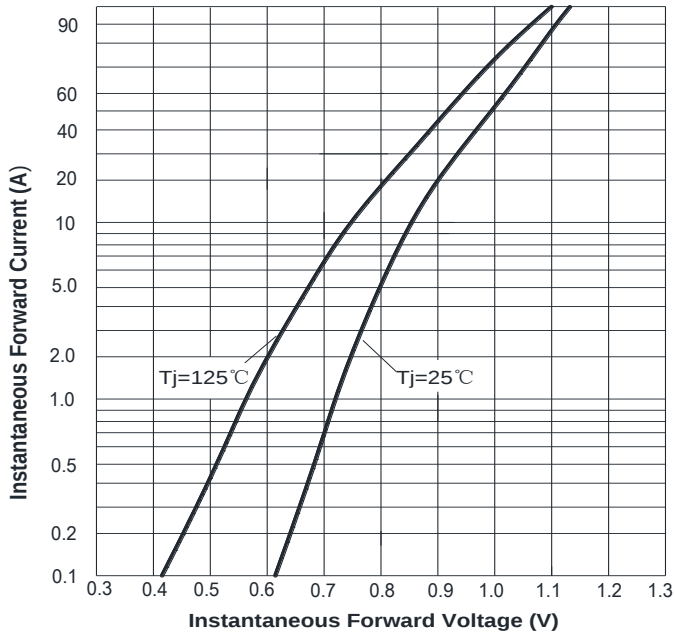
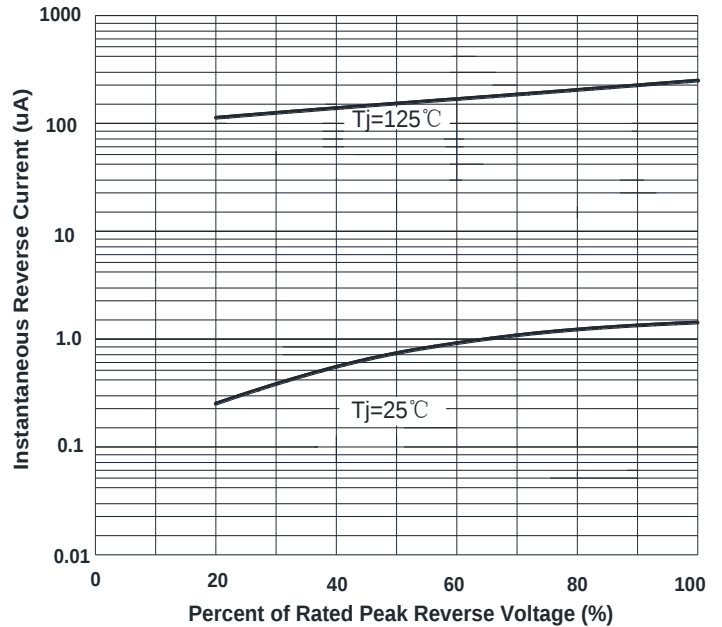


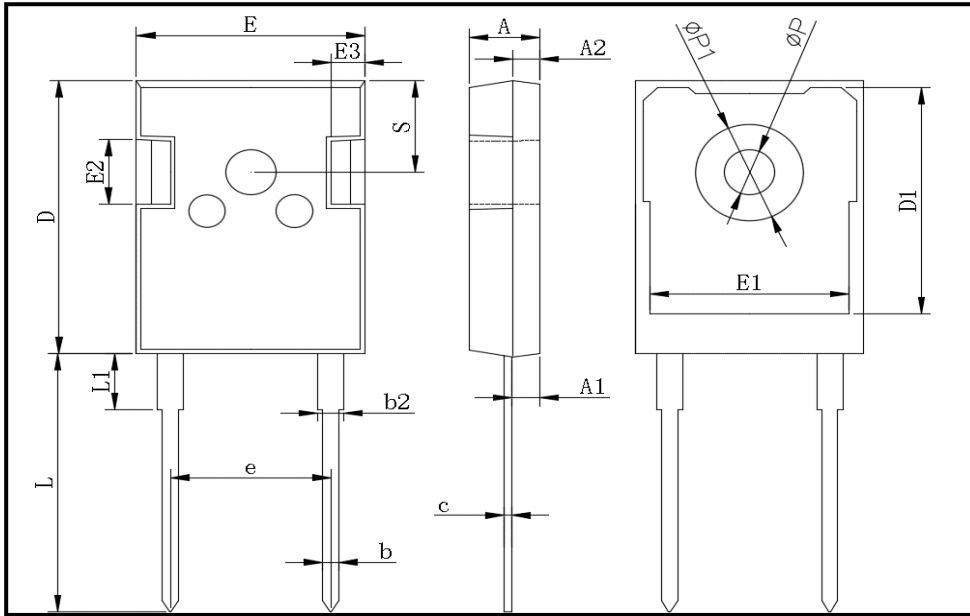
FIG.4: Typical Reverse Characteristics





90EPS12 THRU 90EPS19

■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
$\phi P1$	-	7.30
S	6.15 TYP	



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