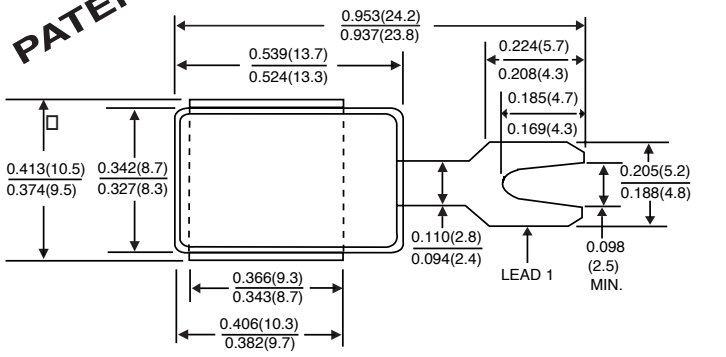
AVALANCHE ALTERNATOR RECTIFIER - AS3024 AND AS3028

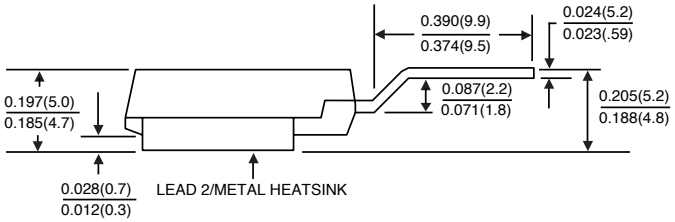
PASSIVATED ANISOTROPIC RECTIFIER TECHNOLOGY

Mean Breakdown Voltage - 24 and 28 volts **Peak Pulse Current -** 60 Amperes

PATENTED*

CASE STYLE ASC





Dimensions in inches and (millimeters)

*Patent #'s 4,980,315
5,166,769
5,278,094

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature stability due to unique oxide passivation
- Patented Passivated Anisotropic Rectifier (PAR) construction
- Integrally molded heatsink provides a very low thermal resistance for maximum heat dissipation
- Low leakage current at T_J=175°C
- Low forward voltage drop
- Ideally suited for alternator rectification and load dump protection
- High temperature soldering guaranteed: 260°C for 10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic body, surface mount with heatsink integrally mounted in the encapsulation

Terminals: Plated, solderable per MIL-STD-750, Method 2026

Polarity: Unidirectional as marked

Mounting Position: Any

Weight: 0.095 ounces, 2.68 grams

For positive polarity use "P".suffix, for negative polarity use "N" suffix
(Polarity refers to lead #1)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	AS3024	AS3028	UNITS
Maximum working peak stand-off voltage	V_{WM}	18.0	20.0	Volts
Minimum reverse breakdown voltage at 100mA	$V_{(BR)}$	20.0	24.0	Volts
Maximum reverse breakdown voltage at 100mA	$V_{(BR)}$	28.0	32.0	Volts
Maximum clamping voltage for 10μs/10ms exponentially decaying waveform at I_{PP}=55A	V_C	38.0	40.0	Volts
Maximum average rectified forward current at T_C=150°C	$I_{(AV)}$	30.0		Amps
Peak forward surge current, 8.3ms single half sine-wave on rated load (JEDEC Method)	I_{FSM}	500.0		Amps
Maximum instantaneous forward voltage at 100A (NOTE 1)	V_F	1.05		Volts
Non- repetitive peak reverse surge current for 10μs/10ms exponentially decaying waveform (see figure 3)	I_{RSM}	55.0		Amps
Maximum reverse leakage current at rated V_{WM} T_J=25°C T_J=175°C	I_R	0.2 10.0		μA
Maximum thermal resistance junction to case (NOTE 2)	$R_{\Theta JC}$	1.0		°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +200		°C

NOTES:
(1) Measured on a 300μs square pulse width
(2) Mounted on alternator heat sink
NOTICE: Advanced product information is subject to change without notice

12/16/98

GENERAL SEMICONDUCTOR®