

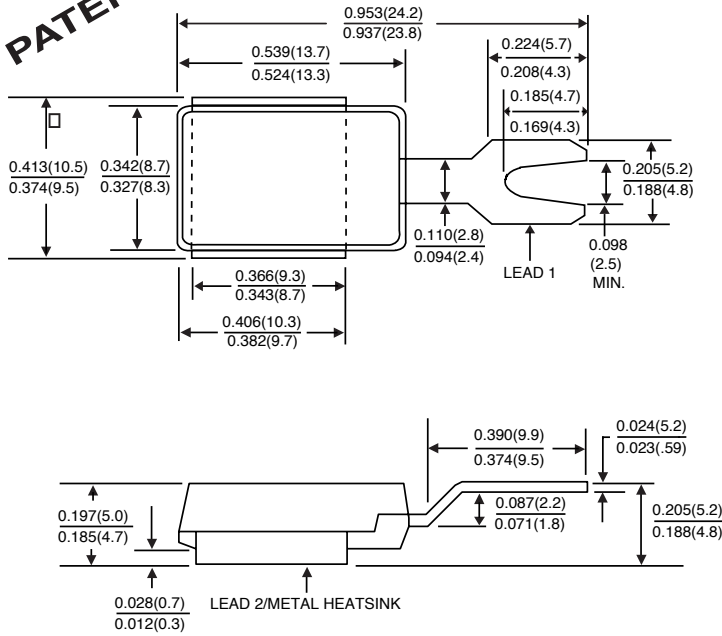
AVALANCHE ALTERNATOR RECTIFIER - AS3524 AND AS3528

PASSIVATED ANISOTROPIC RECTIFIER TECHNOLOGY

Mean Breakdown Voltage - 24 and 28 Volts Peak Pulse Current - 65 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 $T_J=175^\circ\text{C}$
- ◆ 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	AS3524	AS3528	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} =60A	V _C	38.0	40.0	Volts
Maximum average rectified forward current at T _C =150°C	I _(AV)	35.0		Amps
Peak forward surge current, 8.3ms single half sine-wave on rated load (JEDEC Method)	I _{FSM}	600.0		Amps
Maximum instantaneous forward voltage at 100A (NOTE 1)	V _F	1.00		Volts
Non-repetitive peak reverse surge current for 10μs/10ms exponentially decaying waveform	I _{RSM}	65.0		Amps
Maximum reverse leakage current at rated V _{WM}	I _R	0.5	20.0	μA
		T _J =25°C T _J =175°C		
Maximum thermal resistance junction to case (NOTE 2)	R _{θJC}	0.95		°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

RATING AND CHARACTERISTIC CURVES AVALANCHE ALTERNATOR RECTIFIER - AS3524 AND AS3528

FIG. 1 - FORWARD CURRENT DERATING CURVE

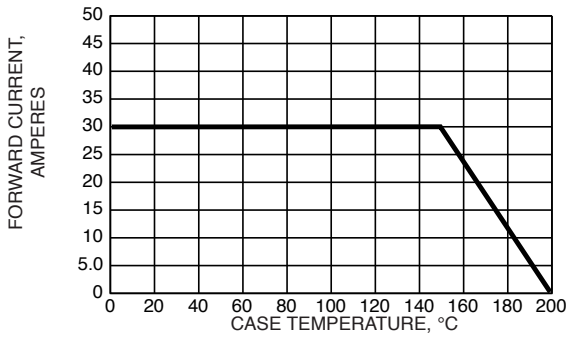


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

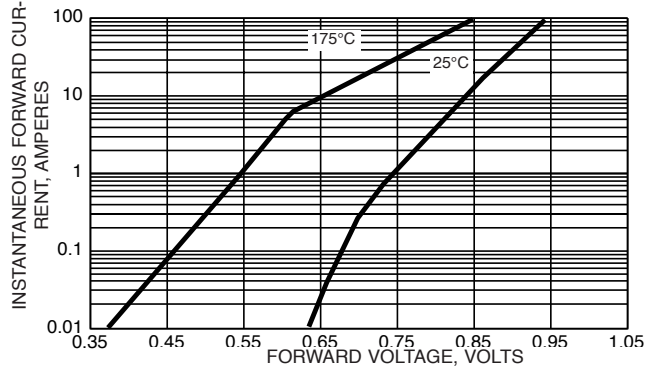


FIG. 3 - PULSE WAVEFORM

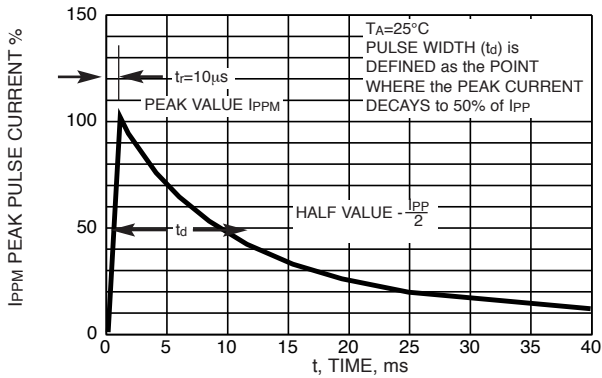


FIG. 4 - REVERSE POWER CAPABILITY

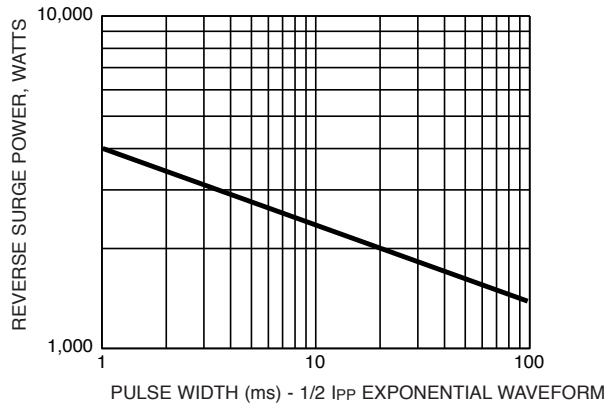


FIG. 5 - LOAD DUMP POWER CHARACTERISTICS (10ms EXPONENTIAL WAVEFORM)

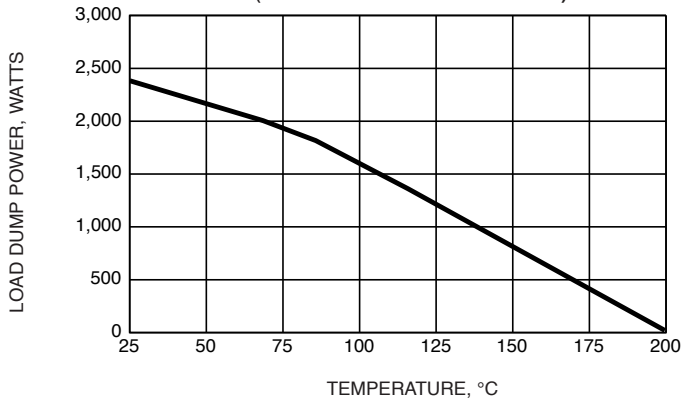


FIG. 6 - TYPICAL REVERSE CHARACTERISTICS

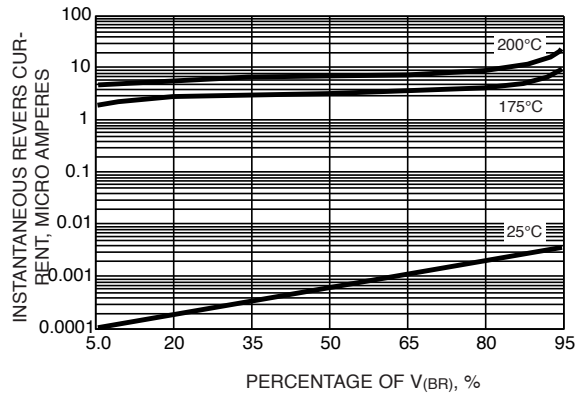


FIG. 7 - TYPICAL TRANSIENT THERMAL IMPEDANCE

