

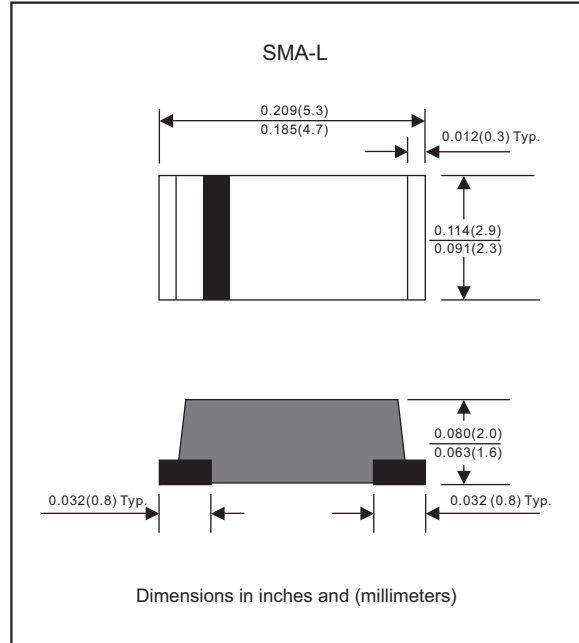
### Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance
- Low profile surface mounted application in order to optimize board space
- High current capability, low forward voltage drop
- Guardring for overvoltage protection
- Ultra high-speed switching
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet RoHS requirements
- Suffix "-H" indicates Halogen free parts, ex. AS5820-AL-H

### Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AC / SMA-L
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.05 gram

### Package outline



### Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	AS5820-AL	AS5821-AL	AS5822-AL	UNITS
Maximum repetitive peak reverse voltage	VRRM	20	30	40	V
Maximum RMS voltage	VRMS	14	21	28	V
Maximum continuous reverse voltage	VR	20	30	40	V
Maximum average forward rectified current	Io	3.0			A
Non-repetitive peak forward surge current 8.3ms single half sine-wave	IFSM	80			A
Typical junction capacitance (Note 1)	CJ	250			pF
Operating junction temperature range	TJ	-55 to +125			°C
Storage temperature range	TSTG	-65 to +175			°C

### Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	AS5820-AL	AS5821-AL	AS5822-AL	UNITS
Maximum instantaneous forward voltage at $I_F=3.0\text{A}$	VF	0.475	0.50	0.50	V
Maximum reverse leakage current at rated $V_R$	$T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$ IR	0.5 20			mA mA

### Thermal characteristics

PARAMETER	SYMBOLS	AS5820-AL	AS5821-AL	AS5822-AL	UNITS
Typical thermal resistance junction to ambient (Note 2)	RθJA	52			°C / W
Typical thermal resistance junction to case (Note 2)	RθJC	26			°C / W

Notes1: Measured at 1MHz and applied reverse voltage of 4.0V D.C  
2: Mounted on FR-4 PCB copper, minimum recommended pad layout

## Rating and characteristic curves (AS5820-AL THRU AS5822-AL)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

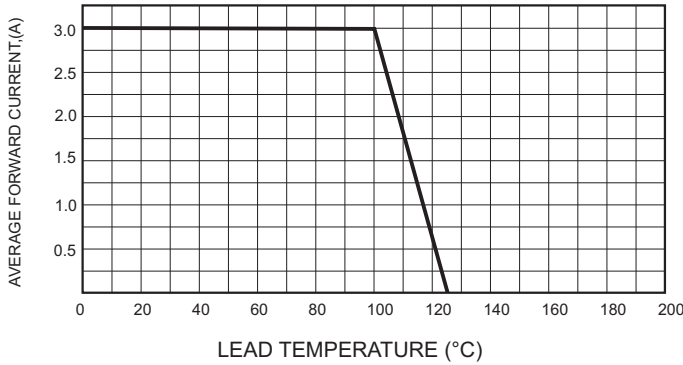


FIG.2-TYPICAL FORWARD CHARACTERISTICS

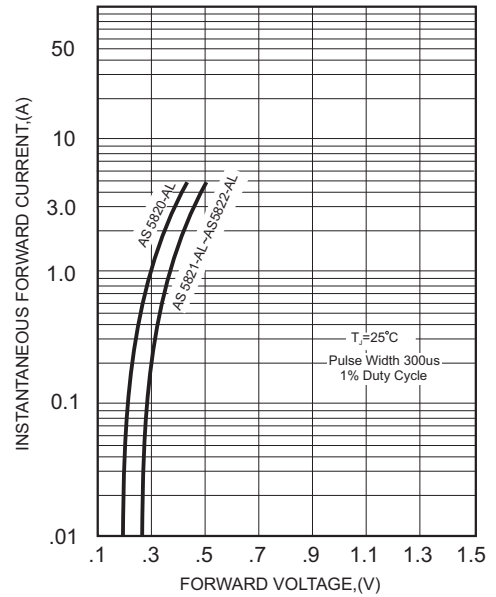


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

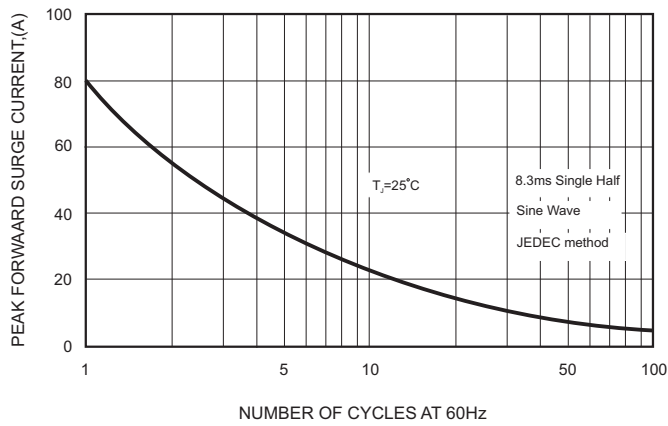


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

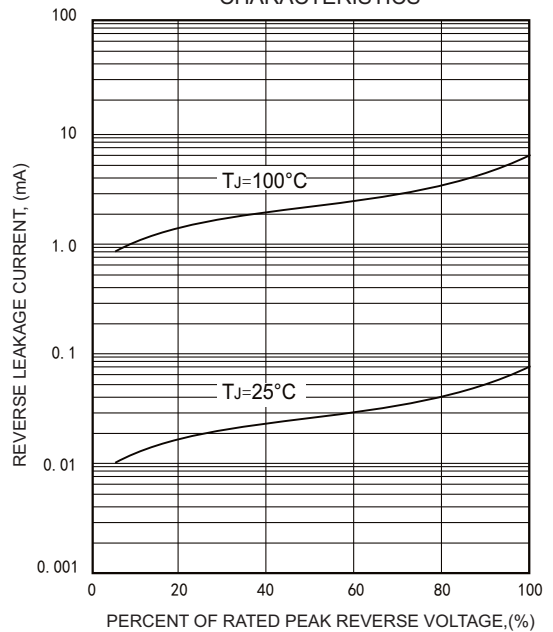
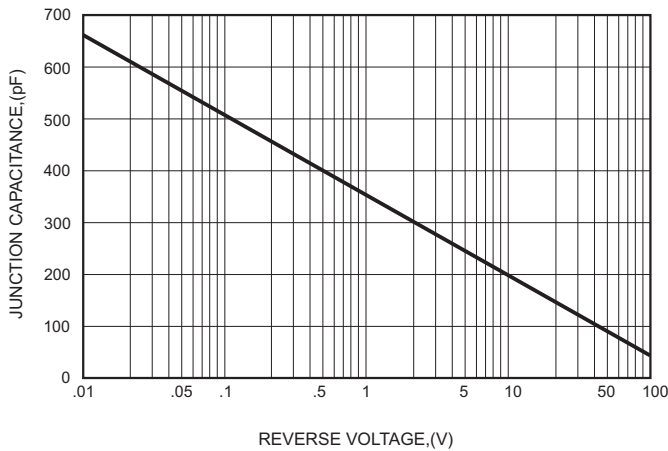




FIG.4-TYPICAL JUNCTION CAPACITANCE



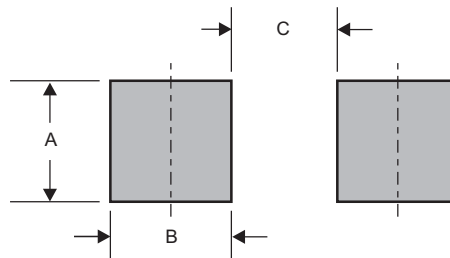
### Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

### Marking

Type number	Marking code
AS5820-AL	SK32
AS5821-AL	SK33
AS5822-AL	SK34

### Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA-L	0.110 (2.80)	0.059 (1.50)	0.110 (2.80)