DS32W THRU DS320W

3.0A Surface Mount Schottky Barrier Rectifiers - 20V-200V

Features

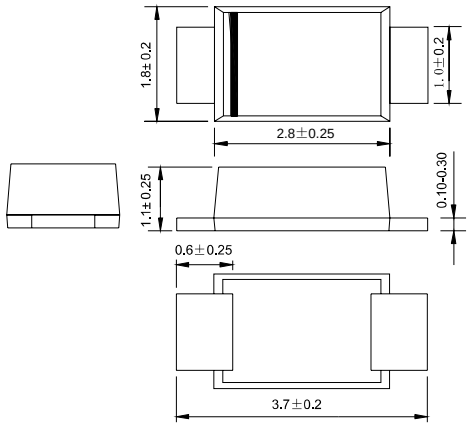
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- High forward surge current capability
- High temperature soldering guaranteed: 260℃/10 seconds
- Compliant to RoHS Directive 2011/65/EU
- Compliant to Halogen-free

Mechanical data

- **Case**: JEDEC SOD-123FL molded plastic body
- **Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
- **Polarity**: Color band denotes cathode end
- **Mounting Position**: Any

Package outline

SOD-123FL



Dimensions in inches and (millimeters)

Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	DS32W	DS33W	DS34W	DS35W	DS36W	DS38W	DS310W	DS315W	DS320W	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current at T_L(see fig.1)	$I_{(AV)}$	3.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	80									A
Maximum instantaneous forward voltage at 3.0A	V_F	0.55			0.70		0.85		0.92		V
Maximum DC reverse current T_A=25℃	I_R	0.5					0.1				mA
at rated DC blocking voltage T_A=100℃		10.0					5.0		2.0		
Typical junction capacitance (NOTE 1)	C_J	240									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	80									°C/W
Operating junction temperature range	$T_{J,}$	-55 to +150									°C
Storage temperature range	T_{STG}	-55 to +150									°C

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2.P.C.B. mounted with 2.0x2.0"(5.0x5.0cm) copper pad areas

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Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

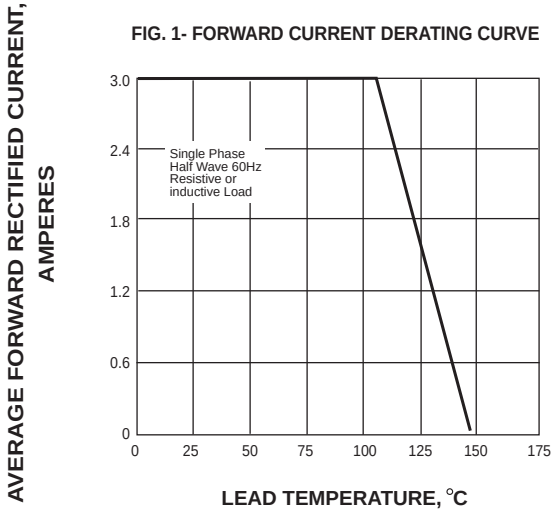


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

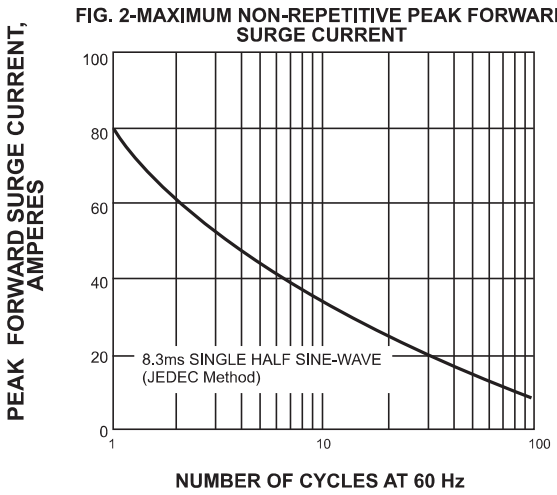


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

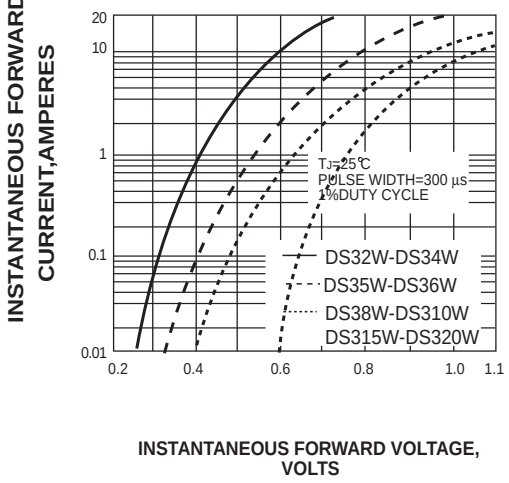


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

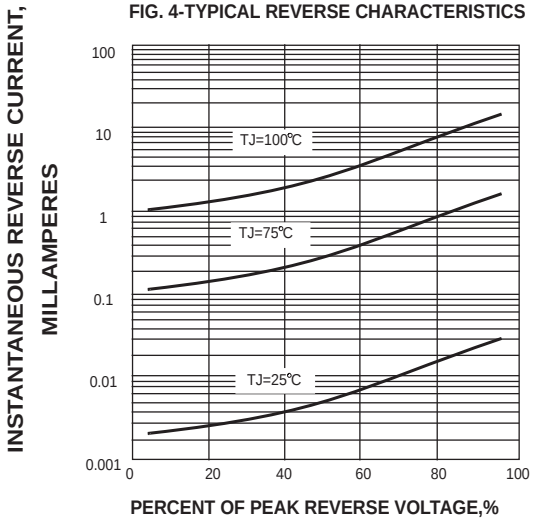
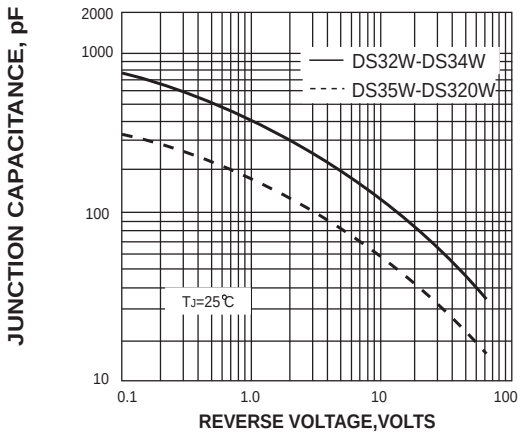


FIG. 5-TYPICAL JUNCTION CAPACITANCE



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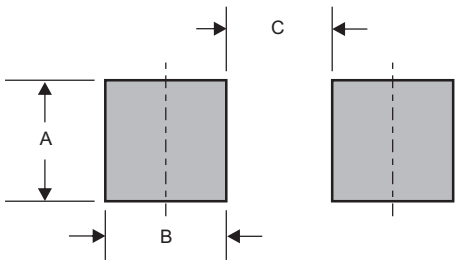
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
DS32W	K32
DS33W	K33
DS34W	K34
DS35W	K35
DS36W	K36
DS38W	K38
DS310W	K310
DS315W	K315
DS320W	K320

Suggested solder pad layout

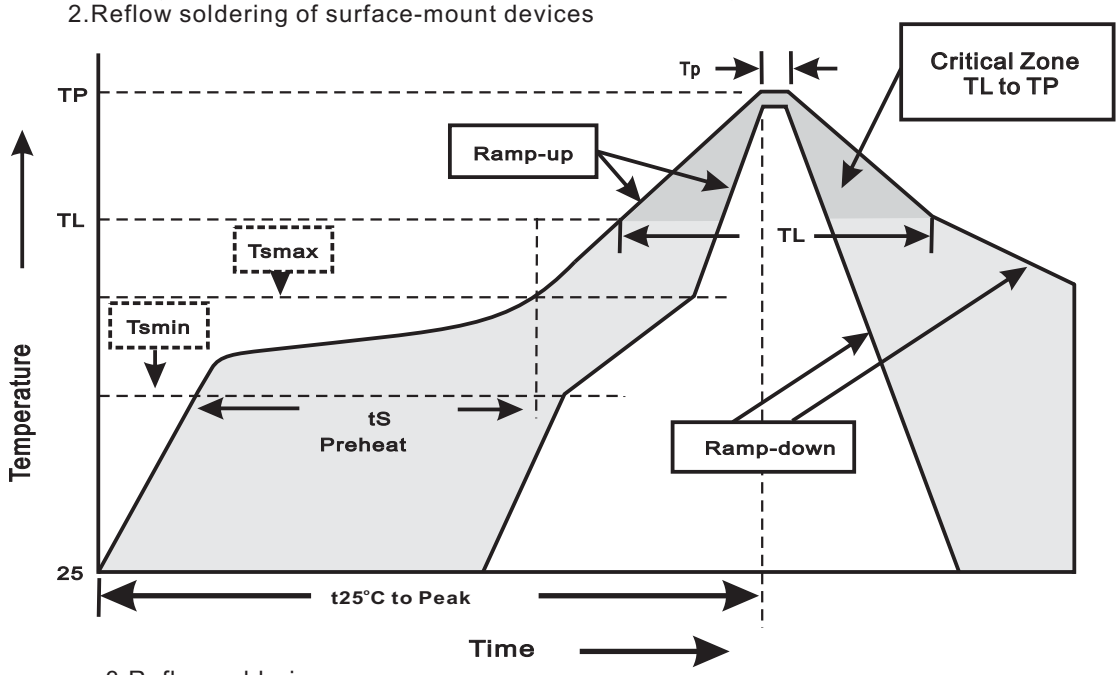


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123FL	0.075 (1.90)	0.055 (1.40)	0.075 (1.90)

Suggested thermal profiles for soldering processes

1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(t_s)	 150°C 200°C 60~120sec
Tsmax to T_L -Ramp-upRate	 <3°C/sec
Time maintained above: -Temperature(T_L) -Time(t_L)	 217°C 60~260sec
Peak Temperature(T_P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t_P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes