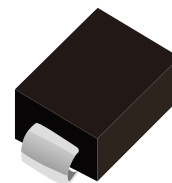
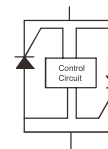


## FEATURES

- | Fast switching
- | Automatically resets after power cycle
- | Available in low profile,small footpring DO-214AA(SMB)
- | Compatible with industrial lighting environments
- | Compatible with PWM frequencies up to 30 KHz



DO-214AA(SMB)



Schematic Symbol

## APPROVALS

|             |                                    |
|-------------|------------------------------------|
| <b>RoHS</b> | Compliance with 2011/65/EU         |
| <b>HF</b>   | Compliance with IEC61249-2-21:2003 |

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

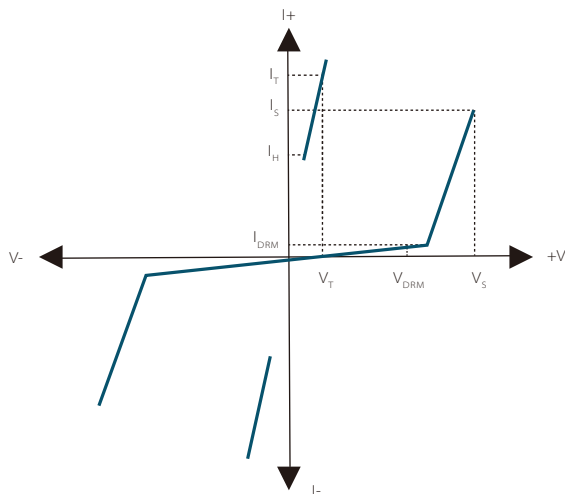
| Part Number | Device Marking Code | Breakdown $V_{BR}$ |         | Breakdown $V_{DRM}$ | $I_H$    | $I_S$    | $I_T@V_T$ | $V_T@I_T=1A$ | Critical Rate Of Rise $d_v/d_t$ |
|-------------|---------------------|--------------------|---------|---------------------|----------|----------|-----------|--------------|---------------------------------|
|             |                     | Min.(V)            | Max.(V) | Min.(V)             | Min.(mA) | Max.(mA) | Max.(A)   | Max.(V)      | Max.(V/us)                      |
| PLED06S     | PL6                 | 6.0                | 16.0    | 6.0                 | 5.0      | 100.0    | 1.0       | 1.2          | 250.0                           |
| PLED09S     | PL9                 | 9.0                | 18.0    | 9.0                 | 5.0      | 100.0    | 1.0       | 1.2          | 250.0                           |
| PLED13S     | PL13                | 13.0               | 26.0    | 13.0                | 5.0      | 100.0    | 1.0       | 1.2          | 250.0                           |
| PLED18S     | PL18                | 18.0               | 33.0    | 18.0                | 5.0      | 100.0    | 1.0       | 1.2          | 250.0                           |

## THERMAL CONSIDERATIONS

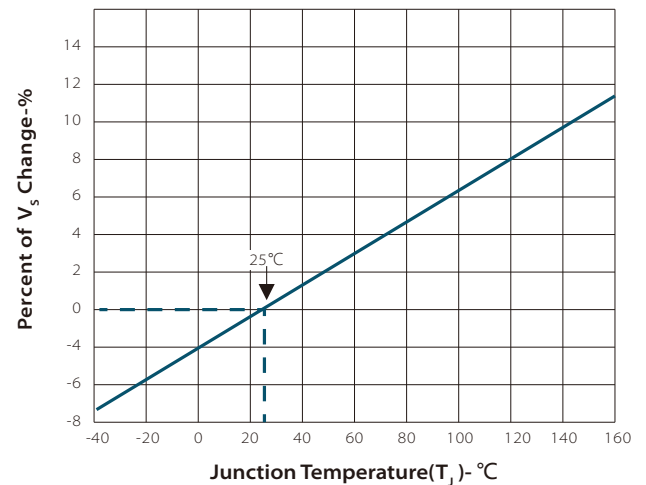
| Symbol          | Parameter                              | Value       | Unit                        |
|-----------------|----------------------------------------|-------------|-----------------------------|
| $R_{\theta JA}$ | Junction to Ambient on printed circuit | 90          | $^{\circ}\text{C}/\text{W}$ |
| $T_J$           | Operating Junction Temperature         | -40 to +150 | $^{\circ}\text{C}$          |
| $T_S$           | Storage Temperature Range              | -40 to +150 | $^{\circ}\text{C}$          |

## TYPICAL DEVICE CHARACTERISTICS

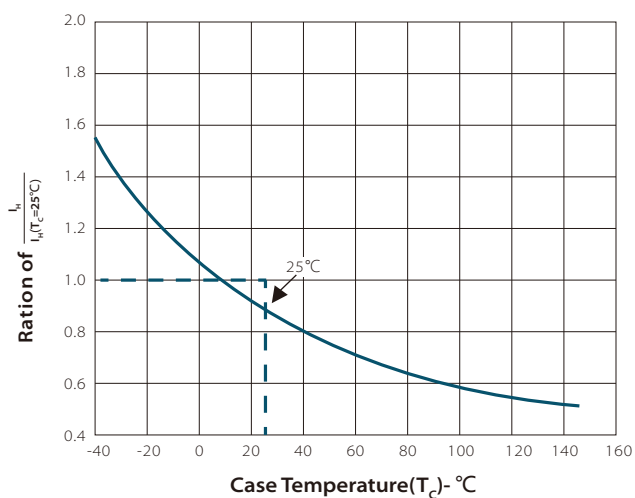
V-I Characteris



Normalized  $V_S$  Change vs. Junction Temperature

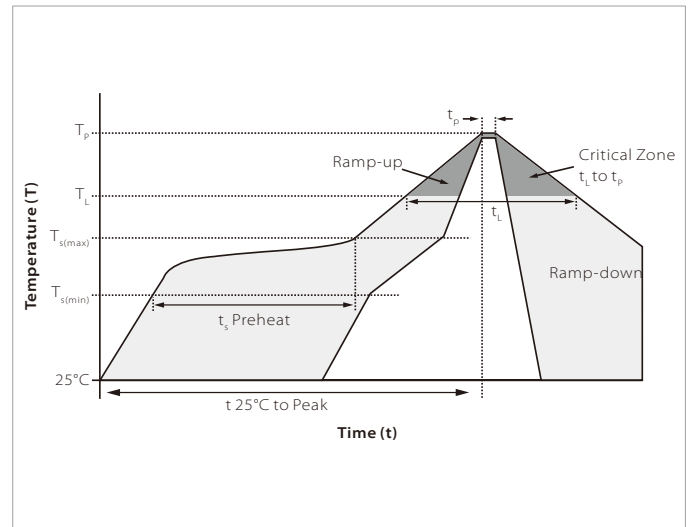


Normalized DC Holding Current vs. Case Temperature

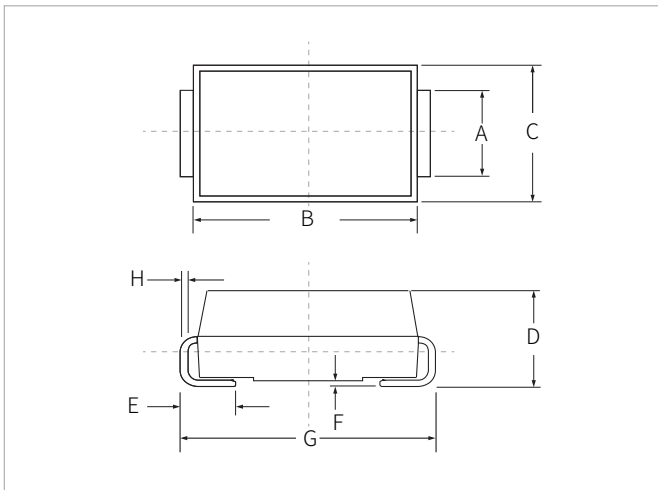


## SOLDERING PARAMETERS

| Reflow Condition                                      |                                  | Lead-free assembly |
|-------------------------------------------------------|----------------------------------|--------------------|
| Pre Heat                                              | Temperature Max ( $T_{s(min)}$ ) | 150°C              |
|                                                       | Temperature Max ( $T_{s(max)}$ ) | 200°C              |
|                                                       | Time (min to max) ( $t_p$ )      | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak |                                  | 3°C/second max     |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                  |                                  | 3°C/second max     |
| Reflow                                                | Temperature ( $T_L$ ) (Liquidus) | 217°C              |
|                                                       | Time (min to max) ( $t_L$ )      | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                            |                                  | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )  |                                  | 20 – 40 seconds    |
| Ramp-down Rate                                        |                                  | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )               |                                  | 8 minutes max.     |
| Do not exceed                                         |                                  | 260°C              |

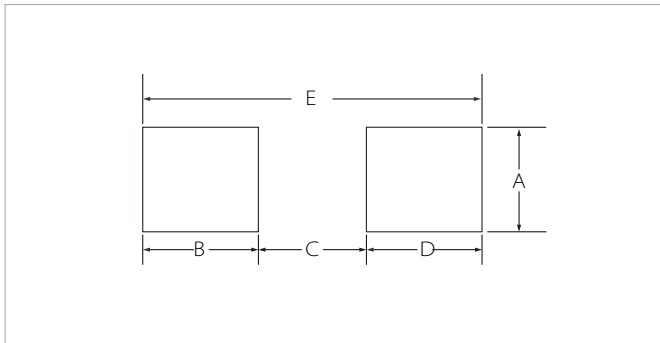


## DO-214AA(SMB) PACKAGE INFORMATION



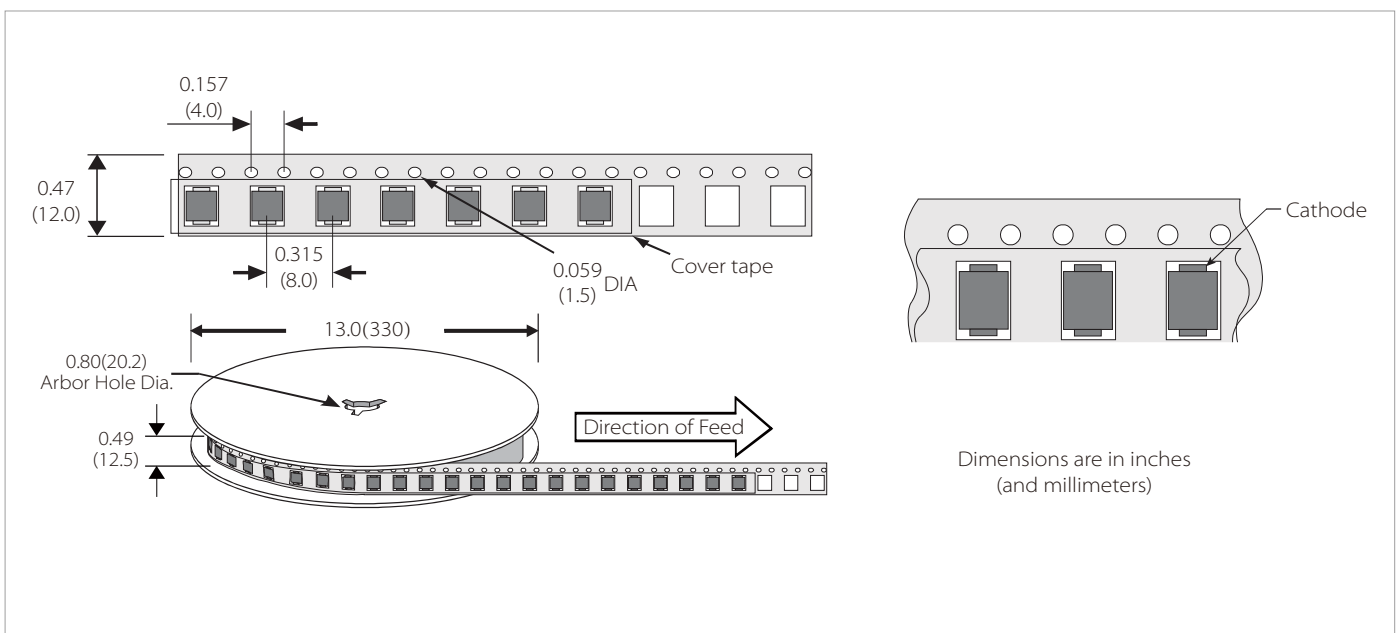
| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min         | Max  | Min    | Max   |
| A    | 1.96        | 2.20 | 0.077  | 0.087 |
| B    | 5.10        | 5.50 | 0.201  | 0.216 |
| C    | 3.40        | 3.90 | 0.134  | 0.153 |
| D    | 2.15        | 2.75 | 0.085  | 0.108 |
| E    | 0.76        | 1.52 | 0.030  | 0.060 |
| F    | 0.02        | 0.20 | 0.001  | 0.008 |
| G    | 5.08        | 5.59 | 0.200  | 0.220 |
| H    | 0.15        | 0.30 | 0.006  | 0.012 |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters |      | Inches   |       |
|------|-------------|------|----------|-------|
|      | Min.        | Max. | Min.     | Max.  |
| A    | 2.20        | -    | 0.087    | -     |
| B    | 1.45        | -    | 0.057    | -     |
| C    | -           | 2.55 | -        | 0.010 |
| D    | 1.45        | -    | 0.057    | -     |
| E    | 5.60REF     |      | 0.220REF |       |

## TAPE AND REEL SPECIFICATION



## ORDERING INFORMATION

| Part Number         | Component Package | QTY/Reel | Reel Size |
|---------------------|-------------------|----------|-----------|
| PLED06S/09S/13S/18S | DO-214AA(SMB)     | 3000PCS  | 13"       |

To find your local partner within Semiwell's website : [www.semiwell.com](http://www.semiwell.com)

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