

GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

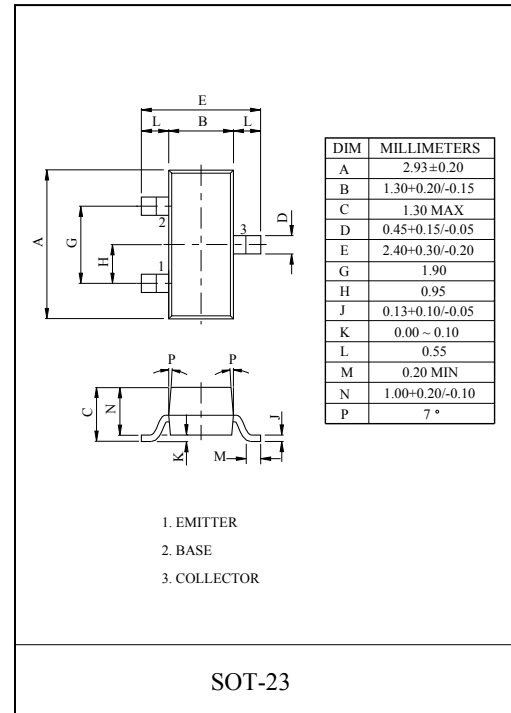
#### FEATURES

- Complementary to the KN4400S/4401S

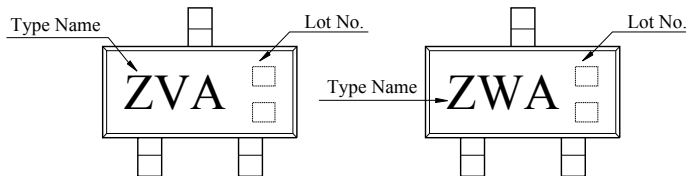
#### MAXIMUM RATING (Ta=25°C)

| CHARACTERISTIC              | SYMBOL    | RATING    | UNIT |
|-----------------------------|-----------|-----------|------|
| Collector-Base Voltage      | $V_{CBO}$ | -40       | V    |
| Collector-Emitter Voltage   | $V_{CEO}$ | -40       | V    |
| Emitter-Base Voltage        | $V_{EBO}$ | -5        | V    |
| Collector Current           | $I_C$     | -600      | mA   |
| Collector Power Dissipation | $P_C$ *   | 350       | mW   |
| Junction Temperature        | $T_j$     | 150       | °C   |
| Storage Temperature Range   | $T_{stg}$ | -55 ~ 150 | °C   |

Note : \* Package Mounted On 99.5% Alumina  $10 \times 8 \times 0.6$ mm)



#### Marking



#### MARK SPEC

| TYPE    | MARK |
|---------|------|
| KN4402S | ZVA  |
| KN4403S | ZWA  |

# KN4402S/4403S

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC                         |             | SYMBOL         | TEST CONDITION                     | MIN.  | TYP. | MAX.  | UNIT |
|--|-------------|----------------|------------------------------------|-------|------|-------|------|
| Collector Cut-off Current              |             | $I_{CEX}$      | $V_{CE}=-35V, V_{EB}=-0.4V$        | -     | -    | -100  | nA   |
| Collector Cut-off Current              |             | $I_{CBO}$      | $V_{CB}=-40V, I_E=0$               | -     | -    | -100  | nA   |
| Collector-Base Breakdown Voltage       |             | $V_{(BR)CBO}$  | $I_C=-100\mu A, I_E=0$             | -40   | -    | -     | V    |
| Collector-Emitter Breakdown Voltage *  |             | $V_{(BR)CEO}$  | $I_C=-1mA, I_B=0$                  | -40   | -    | -     | V    |
| Emitter-Base Breakdown Voltage         |             | $V_{(BR)EBO}$  | $I_E=-100\mu A, I_C=0$             | -5    | -    | -     | V    |
| DC Current Gain *                      | KN4403S     | $h_{FE}(1)$    | $V_{CE}=-1V, I_C=-0.1mA$           | 30    | -    | -     |      |
|  | KN4402S     | $h_{FE}(1)$    | $V_{CE}=-1V, I_C=-1mA$             | 30    | -    | -     |      |
|  | KN4403S     | $h_{FE}(2)$    |                                    | 60    | -    | -     |      |
|  | KN4402S     | $h_{FE}(2)$    | $V_{CE}=-1V, I_C=-10mA$            | 50    | -    | -     |      |
|  | KN4403S     | $h_{FE}(3)$    |                                    | 100   | -    | -     |      |
|  | KN4402S     | $h_{FE}(3)$    | $V_{CE}=-2V, I_C=-150mA$           | 50    | -    | 150   |      |
|  | KN4403S     | $h_{FE}(4)$    |                                    | 100   | -    | 300   |      |
|  | KN4402S     | $h_{FE}(4)$    | $V_{CE}=-2V, I_C=-500mA$           | 20    | -    | -     |      |
| KN4403S                                | $h_{FE}(5)$ | 20             |                                    | -     | -    |       |      |
| Collector-Emitter Saturation Voltage * |             | $V_{CE(sat)1}$ | $I_C=-150mA, I_B=-15mA$            | -     | -    | -0.4  | V    |
|  |             | $V_{CE(sat)2}$ | $I_C=-500mA, I_B=-50mA$            | -     | -    | -0.75 |      |
| Base-Emitter Saturation Voltage *      |             | $V_{BE(sat)1}$ | $I_C=-150mA, I_B=-15mA$            | -0.75 | -    | -0.95 | V    |
|  |             | $V_{BE(sat)2}$ | $I_C=-500mA, I_B=-50mA$            | -     | -    | -1.3  |      |
| Transition Frequency                   |             | $f_T$          | $V_{CE}=-10V, I_C=-20mA, f=100MHz$ | 200   | -    | -     | MHz  |
| Collector Output Capacitance           |             | $C_{ob}$       | $V_{CB}=-10V, I_E=0, f=1MHz$       | -     | -    | 8.5   | pF   |

\* Pulse Test : Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$ .

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