

**DESCRIPTION**

2SC3728 is a silicon NPN epitaxial type transistor. There is a built-in zener diode between collector to emitter.

**FEATURE**

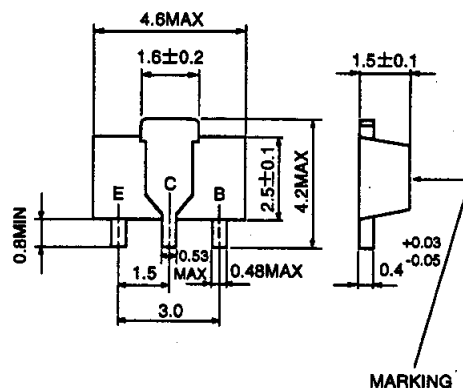
- High  $h_{FE}$   $h_{FE}=150$  to  $800$
- High collector current ( $I_C=2A$ )
- Low collector to emitter saturation voltage  
 $V_{CE(sat)}=0.17V$  typ (@  $I_C=1A$ ,  $I_B=50mA$ )
- High collector dissipation  $P_C=500mW$
- Small package for mounting

**APPLICATION**

Camera shutter, solenoid drive circuit.

**OUTLINE DRAWING**

Unit:mm

**TERMINAL CONNECTOR**

E : EMITTER  
C : COLLECTOR  
B : BASE

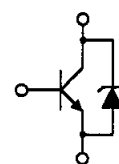
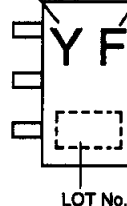
EIAJ : SC-82  
JEDEC : -

Note)

The dimension without tolerance represent central value.

**MAXIMUM RATINGS** ( $T_a=25^\circ C$ )

| Symbol    | Parameter                                  | Ratings     | Unit       |
|-----------|--------------------------------------------|-------------|------------|
| $V_{CBO}$ | Collector to Base voltage                  | 20          | V          |
| $V_{EBO}$ | Emitter to Base voltage                    | 6           | V          |
| $V_{CEO}$ | Collector to Emitter voltage               | 12          | V          |
| $I_{CM}$  | Peak Collector current                     | 3           | A          |
| $I_C$     | Collector current                          | 2           | A          |
| $P_C$     | Collector dissipation ( $T_a=25^\circ C$ ) | 500         | mW         |
| $T_j$     | Junction temperature                       | +150        | $^\circ C$ |
| $T_{stg}$ | Storage temperature                        | -55 to +150 | $^\circ C$ |

**MARKING**TYPE NAME  $h_{FE}$  ITEM**ELECTRICAL CHARACTERISTICS** ( $T_a=25^\circ C$ )

| Symbol        | Parameter                    | Test conditions             | Limits |     |      | Unit    |
|---------------|------------------------------|-----------------------------|--------|-----|------|---------|
|               |                              |                             | Min    | Typ | Max  |         |
| $V_{(BR)CBO}$ | C to B break down voltage    | $I_C=10\mu A, I_E=0$        | 20     |     |      | V       |
| $V_{(BR)EBO}$ | E to B break down voltage    | $I_E=10\mu A, I_C=0$        | 6      |     |      | V       |
| $V_{(BR)CEO}$ | C to E break down voltage    | $I_C=5mA, R_{BE}=\infty$    | 12     | 14  | 16   | V       |
| $I_{CBO}$     | Collector cut off current    | $V_{CB}=16V, I_E=0$         |        |     | 0.1  | $\mu A$ |
| $I_{EBO}$     | Emitter cut off current      | $V_{EB}=4V, I_C=0$          |        |     | 0.1  | $\mu A$ |
| $h_{FE}^*$    | DC forward current gain      | $V_{CE}=4V, I_C=100mA$      | 150    | 350 | 800  | —       |
| $V_{CE(sat)}$ | C to E saturation voltage    | $I_C=1A, I_B=50mA$          |        | 0.2 | 0.35 | V       |
| $f_T$         | Gain band width product      | $V_{CE}=2V, I_E=-10mA$      | 40     | 80  |      | MHz     |
| $C_{ob}$      | Collector output capacitance | $V_{CB}=10V, I_E=0, f=1MHz$ |        | 28  |      | pF      |

\* : It shows  $h_{FE}$  classification in right table.

| Marking  | YE         | YF         | YG         |
|----------|------------|------------|------------|
| $h_{FE}$ | 150 to 300 | 250 to 500 | 400 to 800 |



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