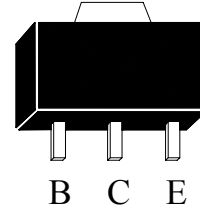


### DESCRIPTION

The **2SB1580** is a PNP Darlington transistor, designed for use in general purpose amplifier and low speed switching application..

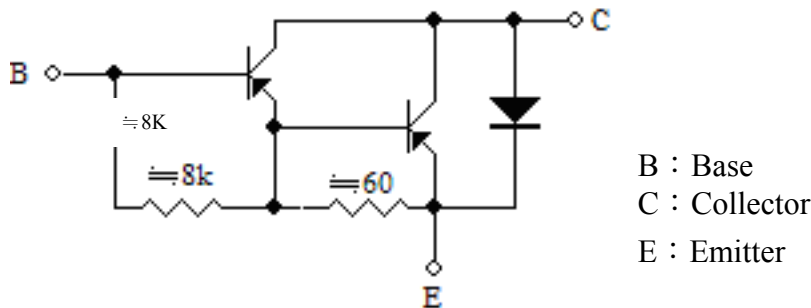


**SOT-89**

### FEATURES

- Collector-Emitter Voltage:  $V_{CEO} = -120V$
- Collector Dissipation:  $P_{C(MAX)} = 600mW$
- Low Collector-Emitter Saturation Voltage

### Equivalent Circuit



### ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}C$ unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-120	V
Collector-Emitter Voltage	$V_{CEO}$	-100	V
Emitter-Base Voltage	$V_{EBO}$	-4	V
Collector Current	DC	$I_C$	-4
	Pulse	$I_{CP}$	-6
Collector Dissipation ( $T_A=25^{\circ}C$ )	$P_C$	600	mW
Junction Temperature	$T_J$	+125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 ~ +150	$^{\circ}C$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Pulse test: Pulse Width  $\leq 350\mu s$ , Duty Cycle  $\leq 2\%$ ..


### THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	208	$^{\circ}C/W$

**■ ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=-1\text{mA}, I_B=0$	-120			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=-100\mu\text{A}, I_E=0$	-100			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=-120\text{V}, I_E=0$			-10	$\mu\text{A}$
Collector Cut-off Current	$I_{CEO}$	$V_{CB}=-100\text{V}, I_B=0$			-10	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-2.2	mA
DC Current Gain (Note)	$h_{FE}$	$V_{CE}=-4\text{V}, I_C=-1\text{A}$	1000			
		$V_{CE}=-4\text{V}, I_C=-2\text{A}$	2000			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-2\text{A}, I_B=-2\text{mA}$			-2	V
Base-Emitter Saturation Voltage	$V_{BE(ON)}$	$V_{CE}=-4\text{V}, I_C=-2\text{A}$			-2.8	V
		$V_{CE}=-4\text{V}, I_C=-1\text{A}$			-2	V
		$V_{CE}=-4\text{V}, I_C=-4\text{A}$			-3	V
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$			200	pF

Note: Pulse test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

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