

## PNP SILICON TRANSISTORS 2SA1376, 2SA1376A

**DESCRIPTION** The 2SA1376/2SA1376A is designed for general-purpose applications requiring high Breakdown Voltages.

**FEATURES**

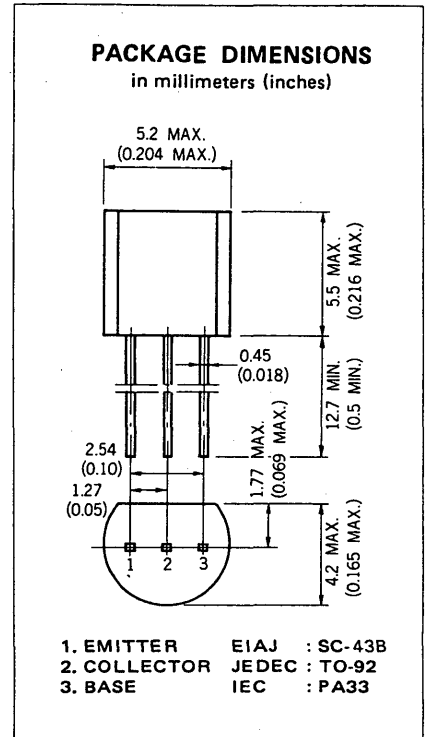
- High Breakdown Voltage.  
 $V_{CEO} = -180 \text{ V} / -200 \text{ V}$  (2SA1376/2SA1376A)
- Good  $h_{FE}$  linearity.
- A Complementary pair with 2SC3478/2SC3478A.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures  
 Storage Temperature . . . . .  $-55$  to  $+150$  °C  
 Junction Temperature . . . . .  $150$  °C Maximum  
 Maximum Power Dissipation ( $T_a = 25$  °C)  
 Total Power Dissipation . . . . .  $750$  mW  
 Maximum Voltages and Currents ( $T_a = 25$  °C)

	2SA1376/2SA1376A		
$V_{CBO}$	Collector to Base Voltage . .	$-200$	V
$V_{CEO}$	Collector to Emitter Voltage . . . . .	$-180 / -200$	V
$V_{EBO}$	Emitter to Base Voltage . . . . .	$-5.0$	V
$I_C$	Collector Current (DC) . . . . .	$-100$	mA
$I_C$	Collector Current (pulse)* . . . . .	$-200$	mA
$I_B$	Base Current (DC) . . . . .	$-20$	mA

\*PW ≤ 10 ms, Duty Cycle ≤ 50 %



**ELECTRICAL CHARACTERISTICS ( $T_a = 25$  °C)**

2SA1376/2SA1376A

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE}$	DC Current Gain	135		400/600	—	$V_{CE} = -10 \text{ V}, I_C = -10 \text{ mA}$
$t_{on}$	Turn-on Time		0.16		$\mu\text{s}$	$I_C = -10 \text{ mA}$
$t_{off}$	Turn-off Time		1.5		$\mu\text{s}$	$I_{B1} = -I_{B2} = -1 \text{ mA}, V_{CC} = -10 \text{ V}$
$f_T$	Gain Bandwidth Product	80	120		MHz	$V_{CE} = -10 \text{ V}, I_E = 10 \text{ mA}$
$C_{ob}$	Output Capacitance		3.5	4.0	pF	$V_{CB} = -30 \text{ V}, I_F = 0, f = 1.0 \text{ MHz}$
$I_{CBO}$	Collector Cutoff Current			$-100$	nA	$V_{CB} = -200 \text{ V}, I_E = 0$
$I_{EBO}$	Emitter Cutoff Current			$-100$	nA	$V_{EB} = -4.0 \text{ V}, I_C = 0$
$V_{BE}$	Base to Emitter Voltage	$-600$	$-650$	$-700$	mV	$V_{CE} = -10 \text{ V}, I_C = -10 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage		$-0.2$	$-0.3$	V	$I_C = -50 \text{ mA}, I_B = -5.0 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage		$-0.8$	$-1.2$	V	$I_C = -50 \text{ mA}, I_B = -5.0 \text{ mA}$

**Classification of  $h_{FE}$**

Rank	L	K	U**
Range	135 - 270	200 - 400	300 - 600

Test Conditions:  $V_{CE} = -10 \text{ V}, I_C = -10 \text{ mA}$

\*\* 2SA1376A has no U rank.

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

