

# NPN SILICON TRANSISTOR 2SC3623

**DESCRIPTION** The 2SC3623 is designed for general-purpose applications requiring High DC Current Gain.  
This is suitable for all kind of driving, instead of Darlington Transistor, or muting.

- FEATURES**
- High DC Current Gain.  
 $h_{FE} = 1000$  to  $3200$  (@  $V_{CE} = 5.0$  V,  $I_C = 1.0$  mA)
  - Low Collector Saturation Voltage.  
 $V_{CE(sat)} = 0.07$  V TYP. (@  $I_C = 50$  mA,  $I_B = 5.0$  mA)
  - High  $V_{EBO}$  :  $V_{EBO} > 12$  V

**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 . . . . . 250 mW

Maximum Voltages and Currents ( $T_a = 25$  °C)

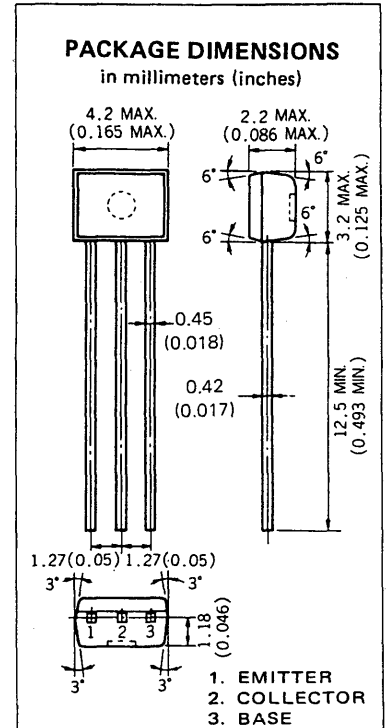
$V_{CBO}$  Collector to Base Voltage . . . . . 60 V

$V_{CEO}$  Collector to Emitter Voltage . . . . . 50 V

$V_{EBO}$  Emitter to Base Voltage . . . . . 12 V

$I_C$  Collector Current . . . . . 150 mA

$I_B$  Base Current. . . . . 10 mA



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE1}^*$	DC Current Gain	1000	1800	3200	—	$V_{CE} = 5.0$ V, $I_C = 1.0$ mA
$h_{FE2}^*$	DC Current Gain	200	350		—	$V_{CE} = 5.0$ V, $I_C = 100$ mA
$f_T$	Gain Bandwidth Product		250		MHz	$V_{CE} = 5.0$ V, $I_C = -10$ mA
$C_{ob}$	Output Capacitance		3.0		pF	$V_{CB} = 5.0$ V, $I_E = 0$ , $f = 1.0$ MHz
$t_{on}$	Turn-on Time		0.13		$\mu$ s	$V_{CC} = 10$ V, $V_{BE(off)} = -2.7$ V $I_C = 50$ mA $I_{B1} = -I_{B2} = 1.0$ mA
$t_f$	Storage Time		0.72		$\mu$ s	
$t_{off}$	Turn-off Time		1.22		$\mu$ s	
$I_{CBO}$	Collector Cutoff Current			100	nA	$V_{CB} = 50$ V, $I_E = 0$
$I_{EBO}$	Emitter Cutoff Current			100	nA	$V_{EB} = 10$ V, $I_C = 0$
$V_{BE}^*$	Base to Emitter Voltage		560		mV	$V_{CE} = 5.0$ V, $I_C = 1.0$ mA
$V_{CE(sat)}^*$	Collector Saturation Voltage		0.07	0.30	V	$I_C = 50$ mA, $I_B = 5.0$ mA
$V_{BE(sat)}^*$	Base Saturation Voltage		0.8	1.2	V	$I_C = 50$ mA, $I_B = 5.0$ mA

\*Marked items are Pulse Test : PW 350  $\mu$ s  
Duty Cycle  $\leq 2$  %

**Classification of  $h_{FE1}$**

Rank	L	K
Range	1000 to 2000	1600 to 3200

Test Conditions:  $V_{CE} = 5.0$  V,  $I_C = 1.0$  mA

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

