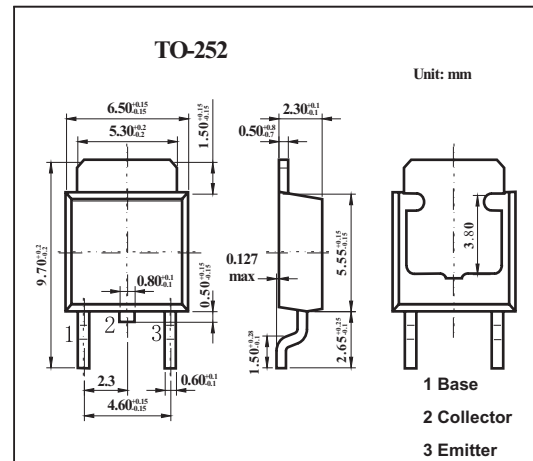


## NPN Silicon Epitaxia

## 2SC4332-Z

## ■ Features

- Low collector saturation voltage.
- Fast switching speed.
- High DC current gain.

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	100	V
Collector-emitter voltage	$V_{CE0}$	60	V
Emitter-base voltage	$V_{EB0}$	7	V
Collector current	$I_C$	5	A
Collector current (pulse) *	$I_{CP}$	10	A
Base current	$I_B$	2.5	A
Total power dissipation	$P_T$	1	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\*  $PW \leq 10$  ms, duty cycle  $\leq 50\%$

**2SC4332-Z**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector to Emitter Voltage	$V_{CEO(SUS)}$	$I_C = 3.0\text{ A}, I_B = 0.3\text{ A}, L = 1\text{ mH}$	60			V
Collector to Emitter Voltage	$V_{CEX(SUS)}$	$I_C = 3.0\text{ A}, I_{B1} = -I_{B2} = 0.3\text{ A}, V_{BE(OFF)} = -1.5\text{ V}, L = 180\text{ }\mu\text{H}$	60			V
Collector Cut-off Current	$I_{CBO}$	$V_{CE} = 60\text{ V}, I_E = 0$			10	$\mu\text{A}$
Collector Cut-off Current	$I_{CER}$	$V_{CE} = 60\text{ V}, R_{BE} = 51\Omega, T_A = 125^\circ\text{C}$			1.0	mA
Collector Cut-off Current	$I_{CEX1}$	$V_{CE} = 60\text{ V}, V_{BE(OFF)} = -1.5\text{ V}$			10	$\mu\text{A}$
Collector Cut-off Current	$I_{CEX2}$	$V_{CE} = 60\text{ V}, V_{BE(OFF)} = -1.5\text{ V}, T_A = 125^\circ\text{C}$			1.0	mA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5.0\text{ V}, I_C = 0$			10	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = 2.0\text{ V}, I_C = 0.5\text{ A}$	100			
DC Current Gain	$h_{FE2}$	$V_{CE} = 2.0\text{ V}, I_C = 1.0\text{ A}$	100		400	
DC Current Gain	$h_{FE3}$	$V_{CE} = 2.0\text{ V}, I_C = 3.0\text{ A}$	60			
Collector Saturation Voltage	$V_{CE(sat)1}$	$I_C = 3.0\text{ A}, I_B = 0.15\text{ A}$			0.3	V
Collector Saturation Voltage	$V_{CE(sat)2}$	$I_C = 4.0\text{ A}, I_B = 0.2\text{ A}$			0.5	V
Base Saturation Voltage	$V_{BE(sat)1}$	$I_C = 3.0\text{ A}, I_B = 0.15\text{ A}$			1.2	V
Base Saturation Voltage	$V_{BE(sat)2}$	$I_C = 4.0\text{ A}, I_B = 0.2\text{ A}$			1.5	V
Collector Capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		130		pF
Gain Bandwidth Product	$f_T$	$V_{CE} = 10\text{ V}, I_E = -0.5\text{ A}$		150		MHz
Turn-on Time	$t_{on}$	$I_C = 3.0\text{ A}, R_L = 16.7\Omega,$ $I_{B1} = -I_{B2} = 0.15\text{ A}, V_{CC} = 50\text{ V}$			0.3	$\mu\text{s}$
Storage Time	$t_{stg}$				1.5	$\mu\text{s}$
Fall Time	$t_f$				0.3	$\mu\text{s}$

## ■ hFE Classification

Marking	M	L	K
hFE	100~200	150~300	200~400