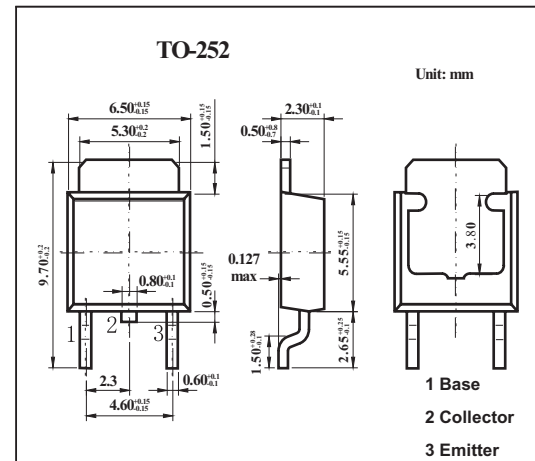


NPN Silicon Epitaxia

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	$^\circ\text{C}$

* $PW \leq 10 \text{ ms}$, 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	μA
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	μA
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	μA
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	μs
Storage Time	t_{stg}				1.5	μs
Fall Time	t_f				0.3	μs

■ h_{FE} Classification

Marking	M	L	K
h_{FE}	100~200	150~300	200~400