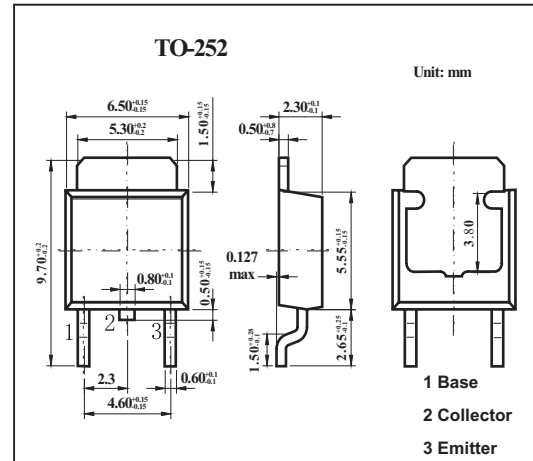


Silicon Power Transistors

2SA1615-Z



■ Features

- Large current capacity.
- High h_{FE} and low collector saturation voltage.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-30	V
Collector-emitter voltage	V_{CE0}	-20	V
Emitter-base voltage	V_{EB0}	-10	V
Collector current	I_C	-10	A
Collector current pulse	I_{CP}^*	-15	A
Base current	I_B	-0.5	A
Total power dissipation	P_T	1.0	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 $\leq 50\%$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = -20\text{V}, I_E = 0$			-1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = -8\text{V}, I_C = 0$			-1	μA
DC current gain *	h_{FE}	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$	200		600	
		$V_{CE} = -2.0\text{V}, I_C = -4.0\text{A}$	160			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -4\text{A}, I_B = -0.05\text{A}$		-0.2	-0.25	V
Base saturation voltage *	$V_{BE(sat)}$	$I_C = -4\text{A}, I_B = -0.05\text{A}$		-0.9	-1.2	
Gain bandwidth product	f_T	$V_{CE} = -5\text{V}, I_E = 1.5\text{A}$		180		MHz
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1.0\text{MHz}$		220		pF
Turn-on time	t_{on}	$I_C = -5.0\text{A}, I_{B1} = -I_{B2} = 0.125\text{A}$		80		ns
Storage time	t_{stg}	$R_L = 2.0\ \Omega, V_{CC} = -10\text{V}$		300		ns
Fall time	t_f			60		ns

* Pulse test: $t_p \leq 350\ \mu\text{s}; d \leq 0.02$.

■ h_{FE} Classification

Marking	L	K
h_{FE}	200~400	300~600