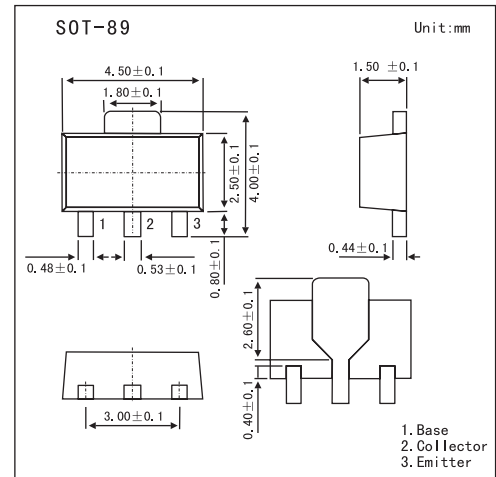


NPN Silicon Epitaxial Transistor

2SD1615

■ Features

- World Standard Miniature Package.
- Low $V_{CE(sat)}$ $V_{CE(sat)} = 0.15\text{ V}$

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	6	V
Collector current (DC)	I_C	1	A
Collector Current (pulse) *1	I_C	2	A
Total power dissipation at 25°C Ambient Temperature *2	P_T	2.0	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* 1Pulse Test $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$.

*2 When mounted on ceramic substrate of $16\text{ cm}^2 \times 0.7\text{ mm}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 60\text{ V}$, $I_E = 0\text{ A}$			100	nA
Emitter cutoff current	I_{EBO}	$V_{EB} = 6.0\text{ V}$, $I_C = 0\text{ A}$			100	nA
DC current gain *	h_{FE}	$V_{CE} = 2.0\text{ V}$, $I_C = 100\text{ mA}$	135	290	600	
Collector saturation voltage *	$V_{CE(sat)}$	$I_C = 1\text{ A}$, $I_B = 50\text{ mA}$		0.15	0.3	V
Base saturation voltage *	$V_{BE(sat)}$	$I_C = 1\text{ A}$, $I_B = 50\text{ mA}$		0.9	1.2	V
Base-emitter voltage *	V_{BE}	$V_{CE} = 2.0\text{ V}$, $I_C = 50\text{ mA}$	600		700	mV
Gain bandwidth product	f_T	$V_{CE} = 2.0\text{ V}$, $I_E = -100\text{ mA}$	80	160		MHz
Output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$		19		pF

* Pulsed: $PW \leq 350\ \mu\text{s}$, duty cycle $\leq 2\%$

■ h_{FE} Classification

Marking	GM	GL	GK
h_{FE}	135~270	200~400	300~600