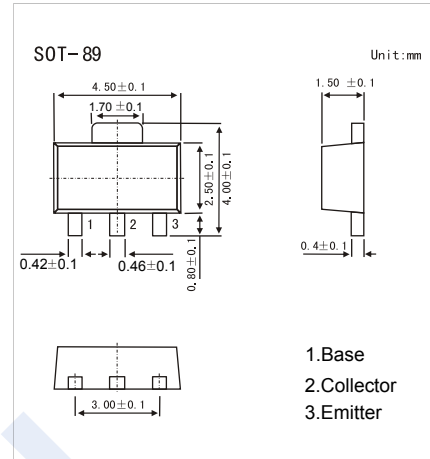


NPN Transistors

2SD1615A

■ Features

- Low $V_{CE(sat)}$
- Complementary to 2SB1115A



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	120	V
Collector - Emitter Voltage	V_{CEO}	60	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	1	A
Collector Current - Pulse (Note.1)	I_{CP}	2	
Collector Power Dissipation	P_C	2	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: $PW \leq 10$ ms, Duty cycle $\leq 20\%$.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu\text{A}$, $I_E = 0$	120			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 \text{ mA}$, $I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu\text{A}$, $I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 120 \text{ V}$, $I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6 \text{ V}$, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 \text{ A}$, $I_B = 50 \text{ mA}$		0.15	0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 \text{ A}$, $I_B = 50 \text{ mA}$		0.9	1.2	
Base - emitter voltage	V_{BE}	$V_{CE} = 2 \text{ V}$, $I_C = 50 \text{ mA}$	0.6		0.7	
DC current gain	h_{FE}	$V_{CE} = 2 \text{ V}$, $I_C = 100 \text{ mA}$	135		400	
		$V_{CE} = 2 \text{ V}$, $I_C = 1 \text{ A}$	81	270		
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		19		μF
Transition frequency	f_T	$V_{CE} = 2 \text{ V}$, $I_E = -100 \text{ mA}$	80	160		MHz

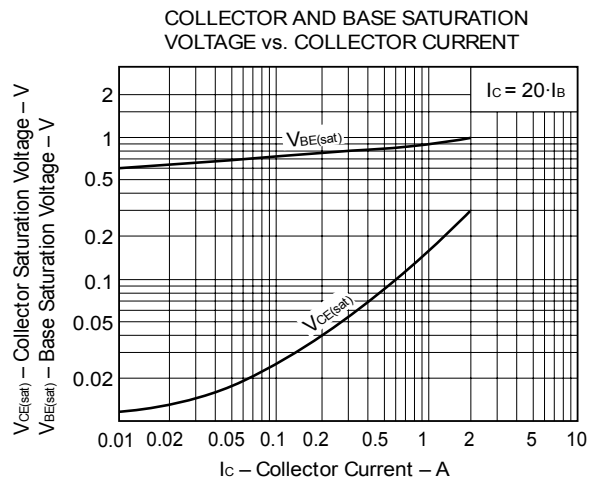
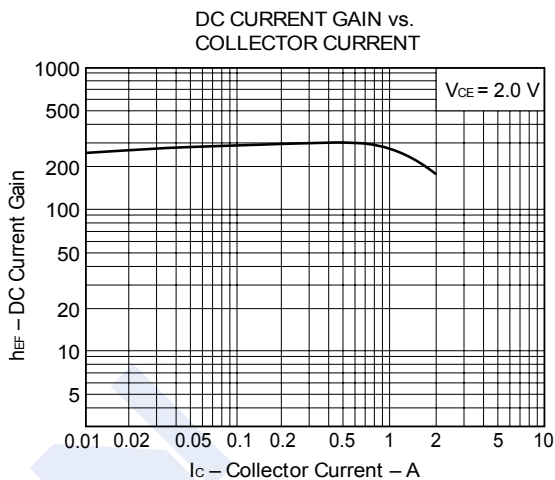
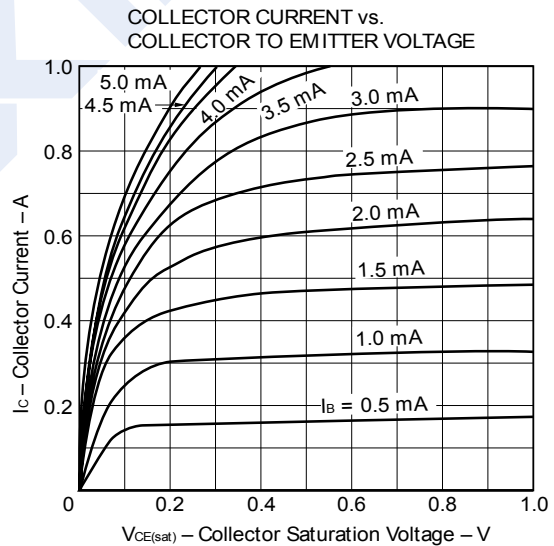
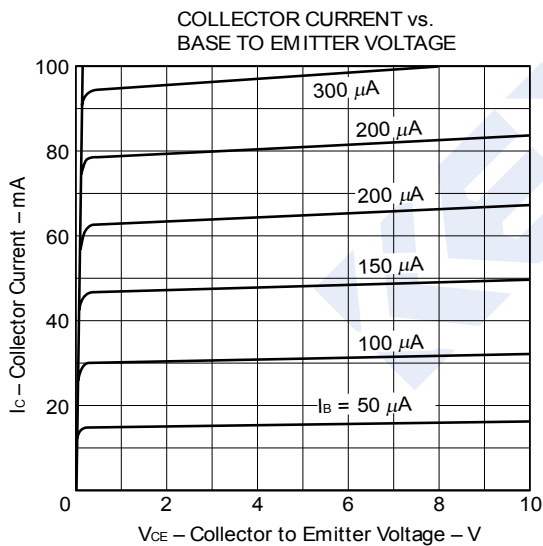
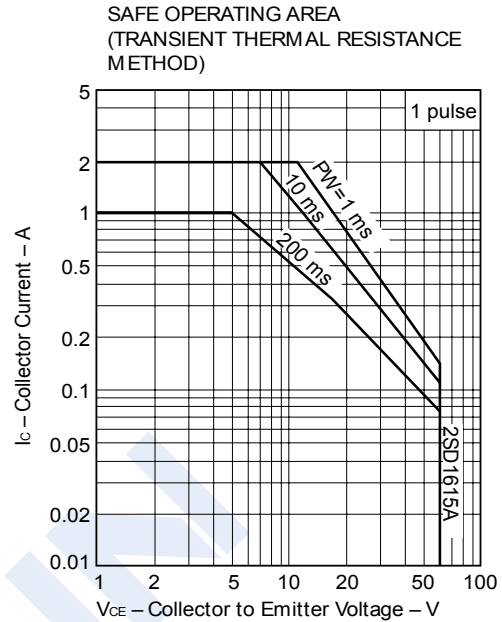
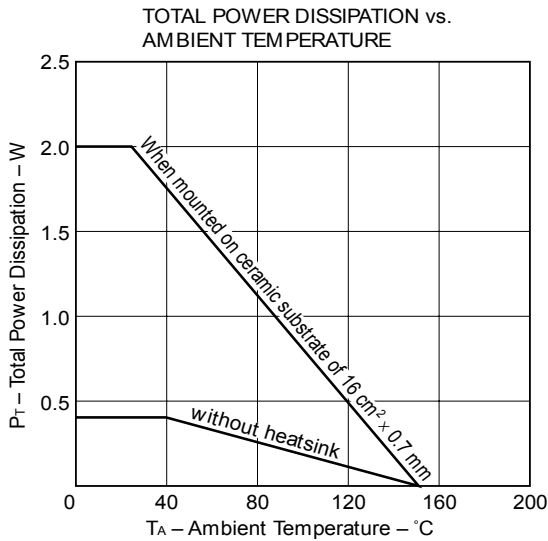
■ Classification of $h_{FE}(1)$

Type	2SD1615A-Q	2SD1615A-P
Range	135-270	200-400
Marking	GQ	GP

NPN Transistors

2SD1615A

Typical Characteristics



NPN Transistors

2SD1615A

■ Typical Characteristics

