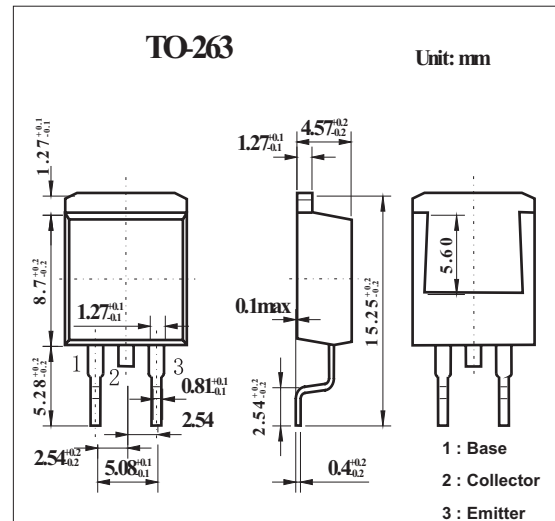


Switching Applications

2SD2201

■ Features

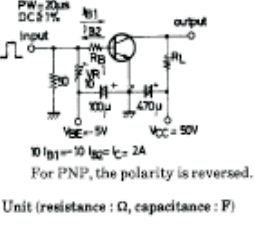
- Surface mount type device making the following possible.
- Low collector-to-emitter saturation voltage.
- Large current capacity.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	90	V
Collector-emitter voltage	V_{CE0}	80	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	7	A
Collector current (pulse)	I_{CP}	12	A
Collector dissipation	P_C	1.65	W
$T_C = 25^\circ\text{C}$		40	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

2SD2201

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V _{CB} = 80V , I _E = 0			0.1	mA	
Emitter cutoff current	I _{EBO}	V _{EB} = 4V , I _C = 0			0.1	mA	
DC current Gain	h _{FE}	V _{CE} = 2V , I _C = 1A	70		280		
		V _{CE} = 2V , I _C = 4A	30				
Gain bandwidth product	f _T	V _{CE} = 5V , I _C = 1A		20		MHz	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 4A , I _B = 0.4A			0.4	V	
Collector-to-base breakdown voltage	V _{(BR)CBO}	I _C = 1mA , I _E = 0	90			V	
Collector-to-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA , R _{BE} = ∞	80			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 1mA , I _C = 0	6			V	
Turn-on time	t _{on}	 <p>PW=20µs DC=1V Input output V_{BE}=5V V_{CE}=50V 10 I_{BL}=10 I_{CL}=2A For PNP, the polarity is reversed. Unit (resistance : Ω, capacitance : F)</p>		0.1		µs	
Storage time	t _{stg}				1.6		µs
Fall time	t _f				0.4		µs

■ hFE Classification

Rank	Q	R	S
hFE	70~140	100~200	140~280