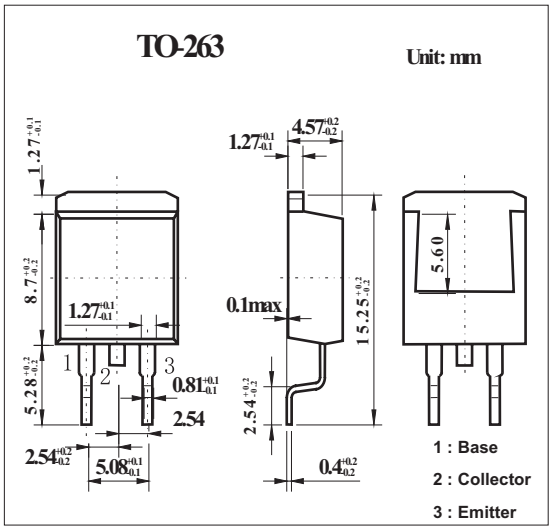
Switching Applications

2SD2199



Features

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

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	7	A
Collector current (pulse)	I_{CP}	12	A
Collector dissipation	P_C	1.65	W
Jumction temperature	T_j	150	℃
Storage temperature	T_{stg}	-55 to +150	℃

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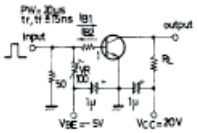
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 40V , 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 = 5A	30			
Gain bandwidth product	f_T	V_{CE} = 5V , I_C = 1A		10		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	60			V
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA , R_{BE} = ∞	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = 1mA , I_C = 0	6			V
Turn-on time	t_{on}	 For PNP, the polarity is reversed. Unit (resistance : Ω, capacitance : F)		0.2		μs
Storage time	t_{stg}			0.3		μs
Fall time	t_f			0.9		μs

■ h_{FE} Classification

Rank	Q	R	S
hFE	70～140	100～200	140～280