

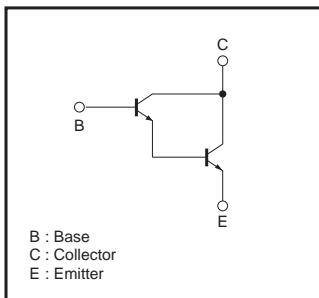
Medium Power Transistor (60V, 1A)

2SD1834

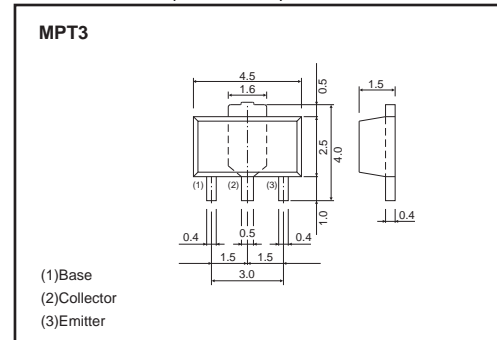
●Features

- 1) Darlington connection for high DC current gain
(typically, DC current gain = 15000 at $V_{CE} = 3V$, $I_C = 0.5A$)
- 2) High input impedance.

●Inner circuit



●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CES}	60	V *2
Emitter-base voltage	V_{EB0}	7	V
Collector current	I_C	1	A(DC)
		2	A(Pulse) *1
Collector power dissipation	P_C	0.5	W
		2 *3	
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

*1 Single pulse $P_w=100ms$

*2 $R_{BE}=0\Omega$

*3 Mounted on a 40x40x10.7mm ceramic substrate

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	-	-	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	60	-	-	V	$I_C=100\mu A$, $R_{BE}=0\Omega$
Emitter-base breakdown voltage	BV_{EBO}	7	-	-	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	-	-	1	μA	$V_{CB}=60V$
Emitter cutoff current	I_{EBO}	-	-	1	μA	$V_{EB}=6V$
DC current transfer ratio	h_{FE}	2000	-	-	-	$V_{CE}/I_C=3V/500mA$ *
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	0.9	1.5	V	$I_C/I_B=500mA/500\mu A$
Transition frequency	f_T	-	150	-	MHz	$V_{CE}=5V$, $I_E=-10mA$, $f=100MHz$
Output capacitance	C_{ob}	-	7	-	pF	$V_{CE}=10V$, $I_E=0A$, $f=1MHz$

* Measured using pulse current.

● Packaging specifications and h_{FE}

Type	2SD1834
Package	MPT3
h_{FE}	2k~
Marking	DE*
Code	T100
Basic ordering unit (pieces)	1000

*Denotes h_{FE}

● Electrical characteristics curves

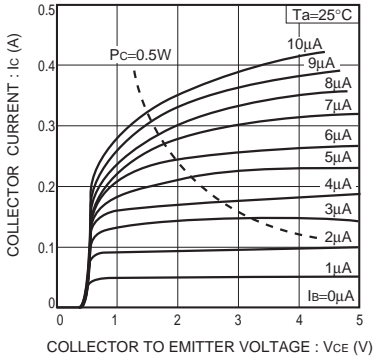


Fig.1 Ground emitter output characteristics

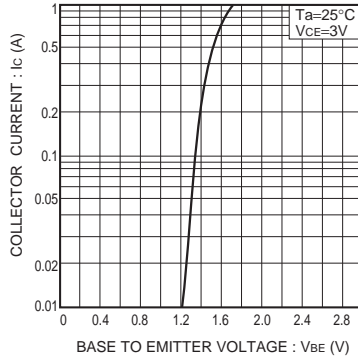


Fig.2 Ground emitter propagation characteristics

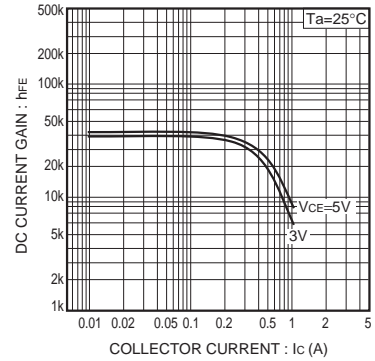


Fig.3 DC current gain vs. collector current

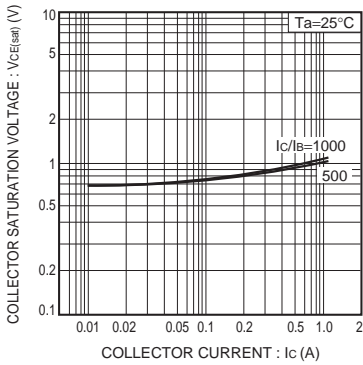


Fig.4 Collector-emitter saturation voltage vs. collector current

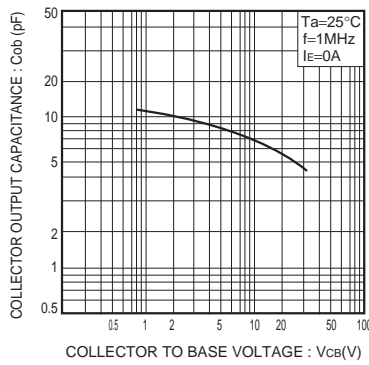


Fig.5 Collector output capacitance vs. collector-base voltage

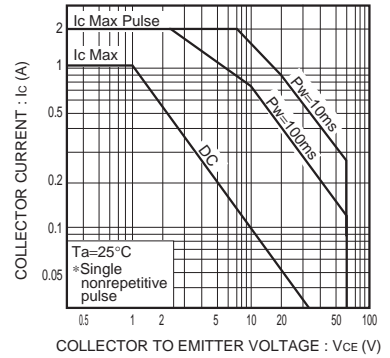


Fig.6 Safe operating area

Notes

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