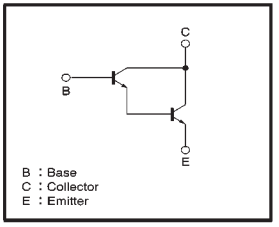
Medium Power Transistor (60V, 1A)

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.

●Circuit diagram



B : Base
C : Collector
E : Emitter

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{CBO}	60	V	
Collector-emitter voltage	V_{CES}	60	V	✻2
Emitter-base voltage	V_{EBO}	7	V	
Collector current	I_C	1	A (DC)	
		2	A (Pulse)	✻1
Collector power dissipation	P_C	0.5	W	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55～+150	℃	

✻1 Single pulse Pw=100ms
✻2 R_{BE}=0Ω

●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 (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	I_C=100μA, R_{BE}=0Ω
Emitter-base breakdown voltage	BV_{EBO}	7	—	—	V	I_E=50μA
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/500μA
Output capacitance	Cob	—	7	—	pF	V_{CB}=10V, I_E=0A, f=1MHz

✻ Measured using pulse current.

(94S-340-D64)

Muting Transistor (15V, 1A)

2SD1468S / 2SD1865

●Features

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.006V at I_C / I_B=1mA / 0.1mA.
2) Ideal for low voltage, high current drives.
3) High DC current gain and high current.

●Absolute maximum ratings (Ta=25℃)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	30	V
Collector-emitter voltage		V_{CEO}	15	V
Emitter-base voltage		V_{EBO}	5	V
Collector current		I_C	1	A
Collector power dissipation	2SD1468S	P_C	0.3	W
	2SD1865		0.6	
Junction temperature		Tj	150	℃
Storage temperature		Tstg	−55～+150	℃

●Packaging specifications and h_{FE}

Type	2SD1468S	2SD1865
Package	SPT	ATV
h_{FE}	QRS	QR
Code	TP	TV2
Basic ordering unit (pieces)	5000	2500

●Electrical characteristics (Ta=25℃)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV_{CBO}	30	—	—	V	I_C=50μA
Collector-emitter breakdown voltage		BV_{CEO}	15	—	—	V	I_C=1mA
Emitter-base breakdown voltage		BV_{EBO}	5	—	—	V	I_E=50μA
Collector cutoff current		I_{CBO}	—	—	0.5	μA	V_{CB}=20V
Emitter cutoff current		I_{EBO}	—	—	0.5	μA	V_{EB}=4V
Collector-emitter saturation voltage		$V_{CE(sat)}$	—	0.08	0.4	V	I_C/I_B=0.5A/50mA
DC current transfer ratio	2SD1468S	h_{FE}	120	—	560	—	V_{CE}/I_C=3V/0.1A
	2SD1865		120	—	390	—	
Transition frequency		f_T	50	150	—	MHz	V_{CE}=5V, I_E=−50mA, f=100MHz
Output capacitance		Cob	—	15	30	pF	V_{CB}=10V, I_E=0A, f=1MHz

(94L-767-D65)