

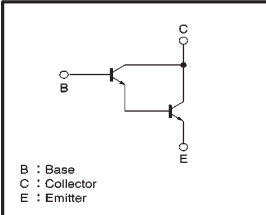
Medium Power Transistor (60V, 1A)

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



●Absolute maximum ratings ($T_a=25^{\circ}C$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	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
Junction temperature	T_J	150	$^{\circ}C$
Storage temperature	T_{stg}	-55~+150	$^{\circ}C$

*1 Single pulse $P_w=100ms$
*2 $R_{\theta JE}=0^{\circ}C/W$

●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 ($T_a=25^{\circ}C$)

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	$I_C=100\mu A$, $R_{\theta JE}=0^{\circ}C/W$
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	$I_C/I_E=500mA/500\mu A$
Output capacitance	C_{ob}	—	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 $I_C/I_E=1mA/0.1mA$.
- 2) Ideal for low voltage, high current drives.
- 3) High DC current gain and high current.

●Packaging specifications and h_{FE}

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

●Absolute maximum ratings ($T_a=25^{\circ}C$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	1	A
Collector power dissipation	2SD1468S	0.3	W
	2SD1865	0.6	
Junction temperature	T_J	150	$^{\circ}C$
Storage temperature	T_{stg}	-55~+150	$^{\circ}C$

●Electrical characteristics ($T_a=25^{\circ}C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	30	—	—	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	15	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E=50\mu A$
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	$I_C/I_E=0.5A/50mA$
DC current transfer ratio	2SD1468S	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	C_{ob}	—	15	30	pF	$V_{CB}=10V$, $I_E=0A$, $f=1MHz$

(94L-767-D65)