# Medium power transistor (80V, 0.7A) 2SD1767 / 2SD1859

#### Features

1) High breakdown voltage, BVCEO=80V, and high current, Ic=0.7A.

2) Complements the 2SB1189 / 2SB1238.

#### Absolute maximum ratings (Ta=25°C)

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Parameter		Symbol	Limits	Unit	
Collector-base voltage		Vсво	80	V	
Collector-emitter voltage		VCEO	80	V	
Emitter-base voltage		Vebo	5	V	
Collector current		lc	0.7	A(DC)	
Collector current		ICP	1	A(Pulse) *1	
Collector power dissipation	2SD1767		0.5		
		Pc	2 *2	W	
	2SD1859		1 ×3		
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	-55 to +150	°C	

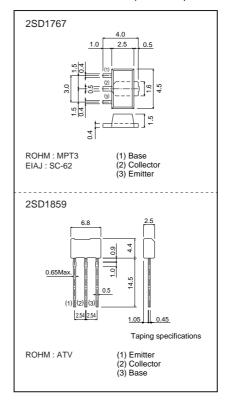
1 Pw=10ms, duty=1/2
2 When mounted on a 40×40×0.7 mm ceramic board.
3 Printed circuit board 1.7 mm thick, collector plating 1cm<sup>2</sup> or larger

#### Packaging specifications and hre

Туре	2SD1767	2SD1859
Package	MPT3	ATV
hfe	PQR	QR
Marking	DC*	-
Code	T100	TV2
Basic ordering unit (pieces)	1000	2500

\*Denotes hre

#### •External dimensions (Unit : mm)



#### •Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	80	-	-	V	Ic=50µA
Collector-emitter breakdown voltage	BVCEO	80	-	-	V	Ic=2mA
Emitter-base breakdown voltage	ВVево	5	-	-	V	Ιε=50μΑ
Collector cutoff current	Ісво	-	-	0.5	μA	Vcb=50V
Emitter cutoff current	Іево	-	-	0.5	μA	VEB=4V
Collector-emitter saturation voltage	VCE(sat)	-	0.2	0.4	V	Ic/IB=500mA/50mA
DC current transfer ratio	hfe	120	-	390	-	Vce/Ic=3V/0.1A
Transition frequency	f⊤	_	120	-	MHz	Vce=10V, Ie=-50mA, f=100MHz
Output capacitance	Cob	-	10	-	pF	Vcb=10V, IE=0A, f=1MHz

## 2SD1767 / 2SD1859

### Transistors

#### Electrical characteristics curves

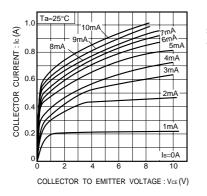
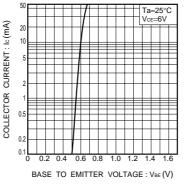


Fig.1 Ground emitter output characteristics



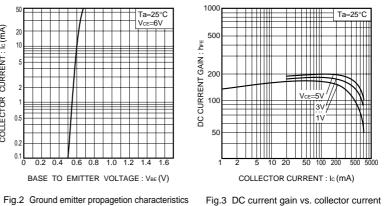
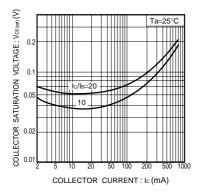
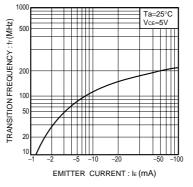


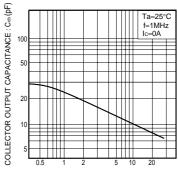
Fig.3 DC current gain vs. collector current



vs. collector current

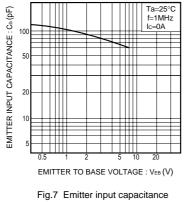






COLLECTOR TO BASE VOLTAGE : VCB (V)

Fig.6 Collector output capacitance vs. collector-base voltage



vs. emitter-base voltage

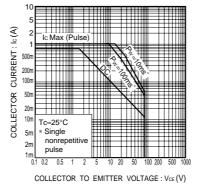


Fig.8 Safe operating area (2SD1859)

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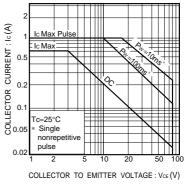


Fig.9 Safe operating area (2SD1767)

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