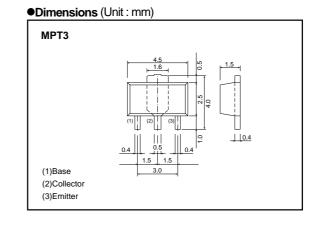
High-voltage Switching Transistor (Camera strobes and Telephone, Power supply) (-400V, -0.1A)

2SA1759

Features

- 1) High breakdown voltage. (BVCEO = -400V)
- 2) Low saturation voltage,
- typically VCE (sat) = -0.2V at Ic / IB = -20mA / -2mA.
- 3) High switching speed, typically $f = 1\mu s$ at Ic =100mA.
- 4) Wide SOA (safe operating area).
- 5) Complements the 2SC4505.



● Absolute maximum ratings (Ta=25°C)

	0	1 Constra	11.9	
Parameter	Symbol	Limits	Unit	
Collector-base voltage	Vсво	-400	V	
Collector-emitter voltage	VCEO	-400	V	
Emitter-base voltage	Vebo	-7	V	
Collector current	lc	-0.1	A(DC)	
		-0.2	A(Pulse) *1	
	Pc	0.5	w	
Collector power dissipation	PC	2 *2		
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

*1 Single pulse, Pw=100ms

*2 When mounted on a $40 \times 40 \times 0.7$ mm ceramic board.

•Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	-400	-	-	V	Ic=-50µA
Collector-emitter breakdown voltage	BVCEO	-400	-	-	V	Ic=-1mA
Emitter-base breakdown voltage	BVево	-7	-	-	V	Iε= -50μA
Collector cutoff current	Ісво	-	-	-10	μΑ	Vcb=-400V
Emitter cutoff current	Іево	-	-	-10	μΑ	V _{EB} =-6V
Collector-emitter saturation voltage	VCE(sat)	-	-0.2	-0.5	V	Ic=-20mA, IB=-2mA
Base-emitter saturation voltage	VBE(sat)	-	-	-1.5	V	Ic=-20mA, IB=-2mA
DC current transfer ratio	hfe	82	-	180	-	Vce= -10V , Ic= -10mA
Transition frequency	fτ	-	12	-	MHz	Vce= -10V , Ie=10mA , f=5MHz
Output capacitance	Cob	-	13	-	pF	Vcb=-10V , Ie=0A , f=1MHz
Turn-on time	ton	-	0.7	-	μs	Ic=-100mA RL=1.5kΩ
Storage time	tstg	-	1.8	-	μs	IB1=-IB2=-10mA
Fall time	tr	-	1	-	μs	Vcc≃ –150V



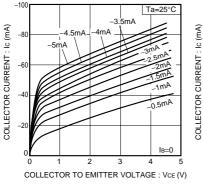
Transistors

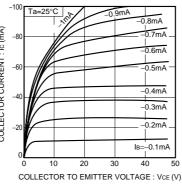
Packaging specifications and hFE

Туре	2SA1759			
Package	MPT3			
hfe	P			
Marking	AH*			
Code	T100			
Basic ordering unit (pieces)	3000			
Provide l				

* Denotes hre

●Electrical characteristics (Ta=25°C)





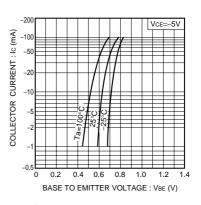


Fig.1 Ground emitter output characteristics (I) Fig.2 Ground emitter output characteristics (II) Fig.3 Ground emitter propagation characteristis

Ta=100

-5

-10

_20 COLLECTOR CURRENT : Ic (mA)

₽₽₽₽₽

-50 -100 -200

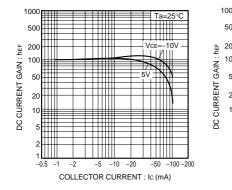


Fig.4 DC current gain vs.collector current (I) Fig.5 DC current gain vs.collector current (II)

500

200

100

50

20

10

5

1

-0.5

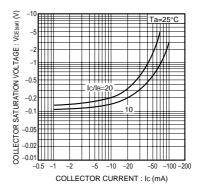
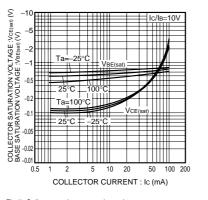
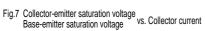


Fig.6 Collector-emitter saturation voltage vs. collector current





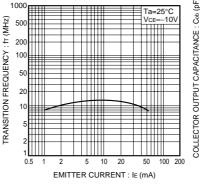


Fig.8 Gain bandwidth products vs. emitter current

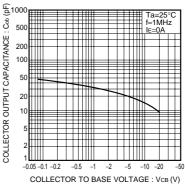
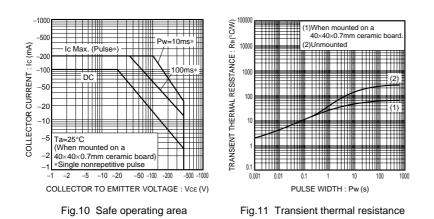


Fig.9 Collector output capacitance vs. collector-base voltage

Rev.B

Transistors



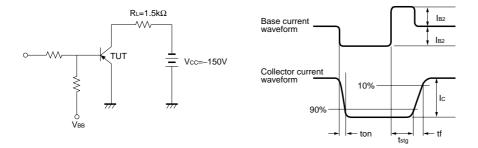


Fig.12 Switching characteristics mesurement circuits

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