



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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High-voltage Switching Transistor

(Camera strobes and Telephone, Power supply) (−400V, −0.1A)

2SA1759

● Features

- 1) High breakdown voltage. ($BV_{CEO} = -400V$)
- 2) Low saturation voltage, typically $V_{CE(sat)} = -0.2V$ at $I_C / I_E = -20mA / -2mA$.
- 3) High switching speed, typically $t_f = 1 \mu s$ at $I_C = 100mA$.
- 4) Wide SOA (safe operating area).
- 5) Complements the 2SA4505.

● Packaging specifications and hFE

Type	2SA1759
Package	MPT3
hFE	P
Marking	AH*
Code	T100
Basic ordering unit (pieces)	3000

* Denotes hFE

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−400	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−400	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	−7	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	I_{CBO}	—	—	−10	μA	$V_{CB} = -400V$
Emitter cutoff current	I_{EBO}	—	—	−10	μA	$V_{EB} = -6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	−0.2	−0.5	V	$I_C / I_E = -20mA / -2mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	−1.2	V	$I_C / I_E = -20mA / -2mA$
DC current transfer ratio	hFE	82	—	180	—	$V_{CE} = -10V, I_C = -10mA$
Transition frequency	fT	—	12	—	MHz	$V_{CE} = -10V, I_E = 10mA, f = 5MHz$
Output capacitance	Cob	—	13	—	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$
Turn-on time	t _{on}	—	0.7	—	μs	$I_C = -100mA, R_L = 1.5k\Omega$
Storage time	t _{stg}	—	1.8	—	μs	$I_{B1} = -I_{B2} = -10mA$
Fall time	t _f	—	1	—	μs	$V_{CC} \sim -150V$

(96-97-A324)

Power Transistor (400V, 0.1A)

2SC4505 / 2SC4620

● Features

- 1) High breakdown voltage. ($BV_{CEO} = 400V$)
- 2) Low saturation voltage, typically $V_{CE(sat)} = 0.05V$ at $I_C / I_E = 10mA / 1mA$.
- 3) High switching speed, typically $t_f = 1.7 \mu s$ at $I_C = 100mA$
- 4) Complements the 2SC4505 and the 2SA1759.

● Packaging specifications and hFE

Type	2SC4505	2SC4620
Package	MPT3	ATV
hFE	PQ	Q
Marking	CE*	—
Code	T100	TV2
Basic ordering unit (pieces)	1000	2500

* Denotes hFE

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	400	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	400	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	7	—	—	V	$I_E = 50 \mu A$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 400V$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.05	0.5	V	$I_C = 10mA, I_E = 1mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C = 10mA, I_E = 1mA$
DC current transfer ratio	hFE	82	—	270	—	$V_{CE} / I_C = 10V / 10mA$
Transition frequency	fT	—	20	—	MHz	$V_{CE} = 10V, I_E = -10mA, f = 10MHz$
Output capacitance	Cob	—	7	—	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$
Turn-on time	t _{on}	—	1	—	μs	$I_C = 100mA$
Storage time	t _{stg}	—	5.5	—	μs	$I_{B1} = -I_{B2} = 10mA$
Fall time	t _f	—	1.7	—	μs	$V_{CC} \sim -150V$

(96-178-C300)

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−400	V
Collector-emitter voltage	V_{CEO}	−400	V
Emitter-base voltage	V_{EBO}	−7	V
Collector current	I_C	−0.1	A (DC)
		−0.2	A (Pulse) *1
Collector power dissipation	P_C	0.5	W
		2 *2	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C

*1 Single pulse, P_w=100ms

*2 When mounted on a 40×40×0.7 mm ceramic board.

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	400	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	0.1	A
		0.2	A *
Collector power dissipation	P_C	0.5	W
		1	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C

* Single pulse P_w=20ms Duty=1 / 2