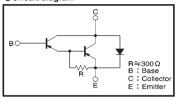
Medium Power Transistor (Motor or Relay drive) (-80V, -4A)

2SB1616

Features

- 1) Darlington connection for a high hee.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper doide.
- 4) Complements the 2SD2478.

Circuit diagram



●Electrical characteristics (Ta=25°C)

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit			
Collector-base voltage	Vсво	-80	V			
Collector-emitter voltage	VCEO	-80	V			
Emitter-base voltage	VEBO	—7	V			
Collector current	lc	-4	Α			
	Ice	-6	A (Pulse) *			
Collector power dissipation	Pc	2	2 W(Ta=25℃)			
	Pc	30	W (Tc=25°C)			
Junction temperature	Tj	150	°C			
Storage temperature	Tstg	-55~ + 150	ొ			

^{*} Single pulse, Pw=100ms

●Packaging specifications and hre

Type	2\$B1616
Package	TO-220FP
hfE	1k~10k
Code	_
Basic ordering unit (pieces)	500

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-emitter breakdown voltage	BVceo	-80	_	_	V	Ic=-1mA	
Collector-base breakdown voltage	ВУсво	-80	_	_	V	I _G =-50 μ A	
Emitter-base breakdown voltage	BVEBO	-7	_	_	V	IE=-50 μ A	
Collector cutoff current	Ісво	_	_	-10	μΑ	V _{CB} =-80V	
Emitter cutoff current	Ієво	_	_	-10	μΑ	VEB=-5V	
Collector-emitter saturation voltage	VCE(sat)	_	_	-1.5	V	Ic/Is=-2A/-4mA	*1
DC current transfer ratio	hre	1000	_	10000	_	VcE/Ic=-3V/-2A	*1
Transition frequency	f⊤	_	20	_	MHz	Vce=5V , le=-50mA , f=5MHz	*2
Output capacitance	Cob	_	22	_	рF	Vcb=-10V, le=0A, f=1MHz	

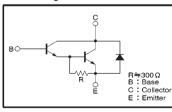
(SPEC-B426)

Power Transistor (80V, 4A) 2SD2478

Features

- 1) Darlington connection for a high hre.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper doide.
- 4) Complements the 2SB1616.

Circuit diagram



●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limits	Unit		
Collector-base voltage	Vсво	80	V		
Collector-emitter voltage	VCEO	80	V		
Emitter-base voltage	VEBO	7	V		
Collector current	lc	4	A (DC)		
	ICP	6	A (t=100ms)		
Collector power dissipation	Pc	2 W			
	FC	30	W (Tc=25°C)		
Junction temperature	Tj	150	°C		
Storage temperature	Tstg	−55 ~ + 150	°C		

●Packaging specifications and hre

Туре	2SD2478
Package	TO-220FP
hfE	1k~10k
Code	_
Basic ordering unit (pieces)	500

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-base breakdown voltage	ВУсво	80	_	_	V	Ic=50 μ A	
Collector-emitter breakdown voltage	BVceo	80	_	_	V	Ic=-1mA	
Collector cutoff current	Ісво	_	_	100	μА	Vcs=80V	
Emitter cutoff current	lebo	_	_	10	μΑ	VEB=5V	
Collector-emitter saturation voltage	VCE(sat)	_	_	1.5	V	Ic/Is=2A/4mA	*1
DC current transfer ratio	hfe	1000	_	10000	_	Vce/lc=3V/2A	*1
Transition frequency	f⊤	_	40	_	MHz	Vc=-5V, I==0.5A, f=10MHz	*2
Output capacitance	Cob	_	35	_	pF	Vos=10V, IE=0A, f=1MHz	

^{*1} Measured using pulse current.

(94L-1129-D426)



^{*2} Transition frequency of the device.