

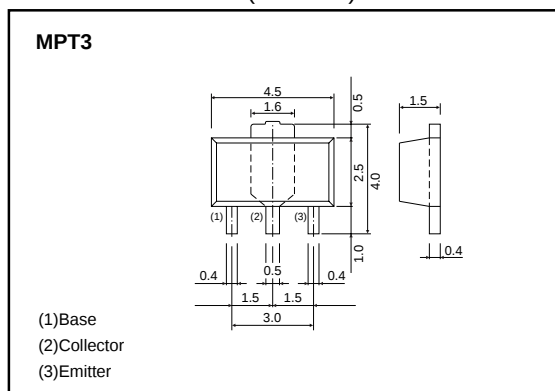
Power transistor (50V, 3A)

2SD1963

●Features

- 1) Low saturation voltage, typically
 $V_{CE(sat)} = -0.45V$ (Max.) at $I_C/I_B = -1.5A / -0.15A$.
- 2) Excellent DC current gain characteristics.
- 3) Complements the 2SB1308.

●External dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	A(DC)
		5	A(Pulse) *1
Collector power dissipation	P_C	0.5	W
		2.0	W *2
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 to 150	°C

*1 Single pulse, $P_w=10ms$

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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	20	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB}=40V$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB}=5V$
DC current transfer ratio	h_{FE}	180	—	560	—	$V_{CE}=2V, I_C=0.5A$ *
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.25	0.45	V	$I_C/I_B=1.5A/0.15A$ *
Transition frequency	f_T	—	150	—	MHz	$V_{CE}=6V, I_E=-50mA, f=100MHz$
Output capacitance	C_{ob}	—	35	—	pF	$V_{CB}=20V, I_E=0A, f=1MHz$

* Measured using pulse current.

Transistors

●Packaging specifications and h_{FE}

Type	2SD1963
Package	MPT3
h_{FE}	RS
Marking	DG*
Code	T100
Basic ordering unit (pieces)	1000

* Denotes h_{FE}

●Electrical characteristic curves

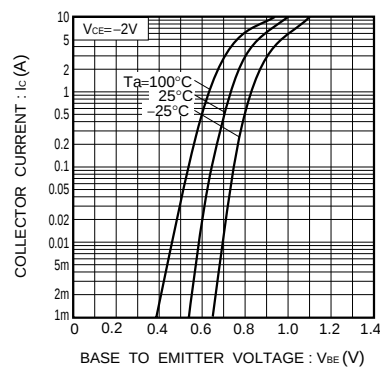


Fig.1 Grounded emitter propagation characteristics

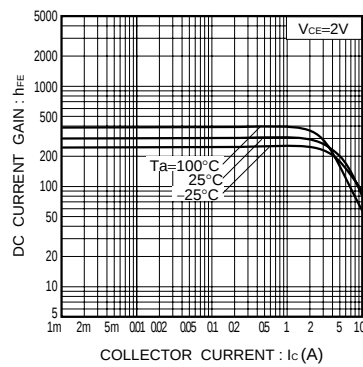


Fig.2 DC current gain vs. collector current

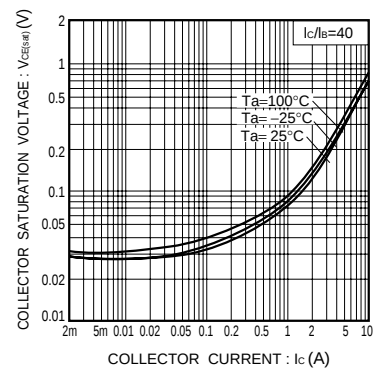


Fig.3 Collector-emitter saturation voltage vs. collector current

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