

2SD2170

- 1) Built-in zener diode between collector and base.
- 2) Zener diode has low dispersion.
- 3) Strong protection against reverse power surges due to "L" loads.
- 4) Darlington connection for high DC current gain.
- 5) Built-in resistor between base and emitter.
- 6) Built-in damper diode.

[illegible]

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	90 $\frac{V}{V_{CE0}}$	V
Collector-emitter voltage	V_{CE0}	90 $\frac{V}{V_{CE0}}$	V
Emitter-base voltage	V_{EB0}	6	V
Collector current	I_C	2	A (DC)
		3	A (Pulse) $\star_1$
Collector power dissipation	P_C	2	W $\star_2$
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

*₁ Single pulse Pw = 10ms . Duty = 1 / 2

*2 When mounted on a 40 x 40 x 0.7 mm ceramic board

Type	2SD2170
Package	MPT3
hFE	1k-10k
Marking	DM
Code	T100
Basic ordering unit (pieces)	1000

E : Emitter
 B : Base
 C : Collector

$R_1 \approx 3.5k\Omega$
 $R_2 \approx 300\Omega$

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	-	110	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	80	-	110	V	$I_C = 1 mA$
Collector cutoff current	I_{CBO}	-	-	10	μA	$V_{CB} = 70V$
Emitter cutoff current	I_{EBO}	-	-	3	mA	$V_{EB} = 5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	1.5	V	$I_C/I_E = 1A/1mA$
DC current transfer ratio	h_{FE}	1000	-	10000	-	$V_{CE} = 2V, I_C = 1A$
Transition frequency	f_T	-	80	-	MHz	$V_{CE} = 5V, I_E = -0.1A, f = 30MHz$
Output capacitance	C_{ob}	-	25	-	pF	$V_{CE} = 10V, I_E = 0A, f = 1MHz$

*1 Measured using pulse current

*2 Transition frequency of the device