

2SD2098

Transistor, NPN

Features

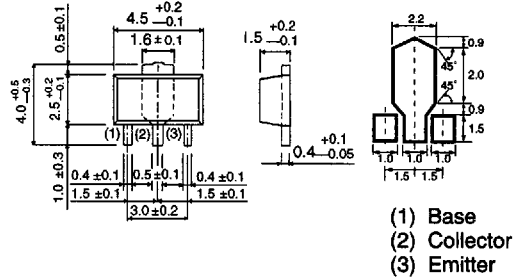
- available in MPT3 (MPT, SOT-89, SC-62) package
- package marking: 2SD2098; DJ★, where ★ is h_{FE} code
- low collector saturation voltage, typically $V_{CE(sat)} = 0.3\text{ V}$ for $I_C/I_B = 4A/0.1A$
- excellent current-to-gain characteristics

Applications

- stroboscopic flash

Dimensions (Units : mm)

2SD2098 (MPT3)



Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	50	V	
Collector-to-emitter voltage	V_{CEO}	20	V	
Emitter-to-base voltage	V_{EBO}	6	V	
Collector current	I_C	5	A	DC
	I_{CP}	10		Single pulse, $P_W = 10\text{ ms}$
Collector dissipation	P_C	0.5	W	Mounted on $40 \times 40 \times 0.7\text{ mm}$ ceramic PCB
		2.0		
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	50			V	$I_C = 50 \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	20			V	$I_C = 1 \text{ mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	6			V	$I_E = 50 \mu\text{A}$
Collector cutoff current	I_{CBO}			0.5	μA	$V_{CB} = 40 \text{ V}$
Emitter cutoff current	I_{EBO}			0.5	μA	$V_{EB} = 5 \text{ V}$
DC current gain	h_{FE}	120		560		$V_{CE} = 2 \text{ V}$, $I_C = 0.5 \text{ A}$, single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		0.3	1.0	V	$I_C/I_B = 4 \text{ A}/0.1 \text{ A}$, single pulse
Transition frequency	f_T		150		MHz	$V_{CE} = 6 \text{ V}$, $I_E = -50 \text{ mA}$, $f = 100 \text{ MHz}$
Output capacitance	C_{ob}		35		pF	$V_{CB} = 20 \text{ V}$, $I_E = 0 \text{ A}$, $f = 1 \text{ MHz}$

h_{FE} rankings

Item	Q	R	S
h_{FE}	120 ~ 270	180 ~ 390	270 ~ 560

Electrical characteristic curves

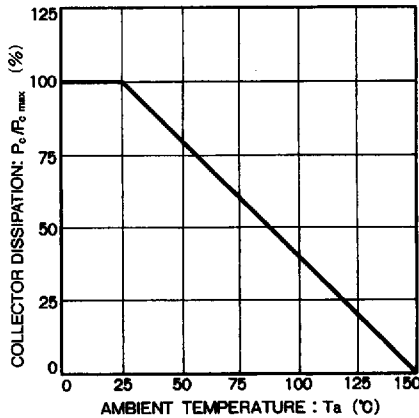


Figure 1

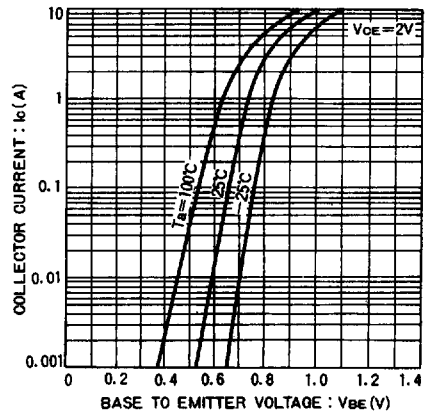


Figure 2

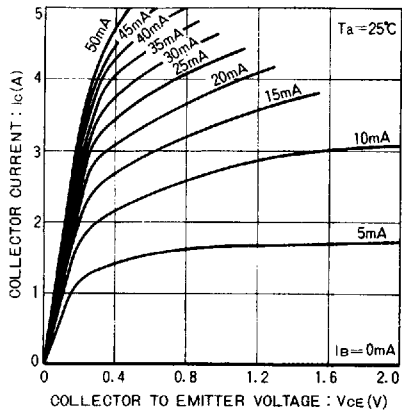


Figure 3

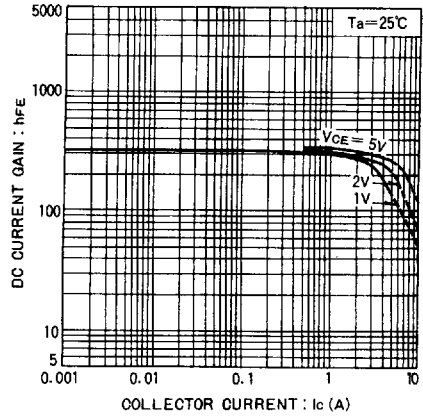


Figure 4

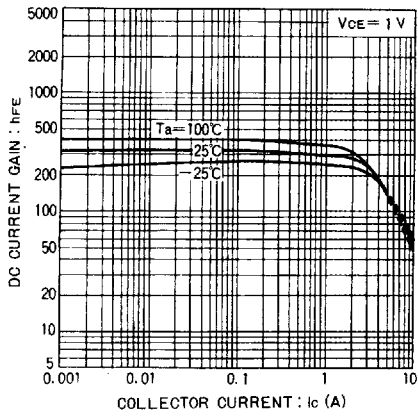


Figure 5

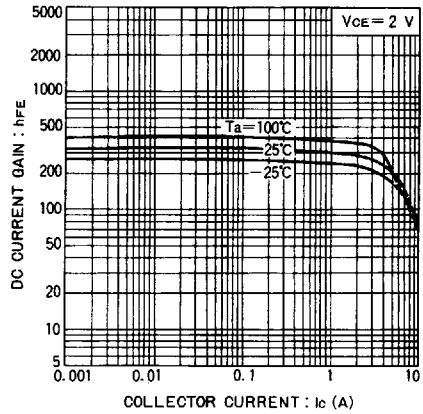


Figure 6

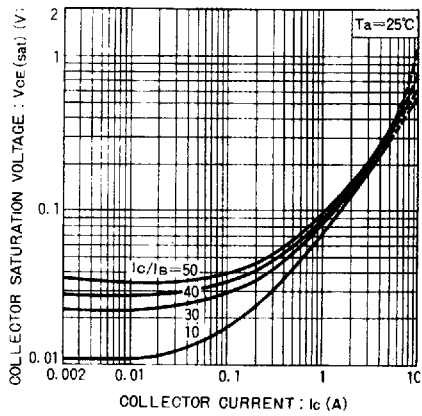


Figure 7

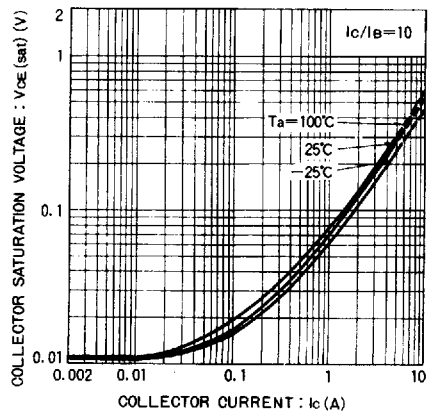


Figure 8

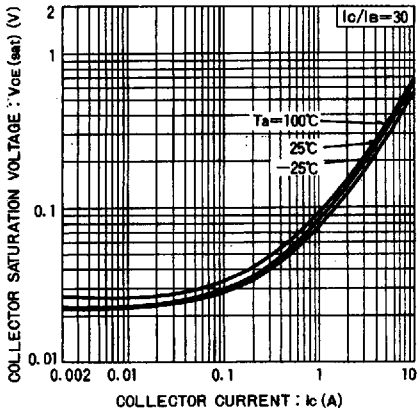


Figure 9

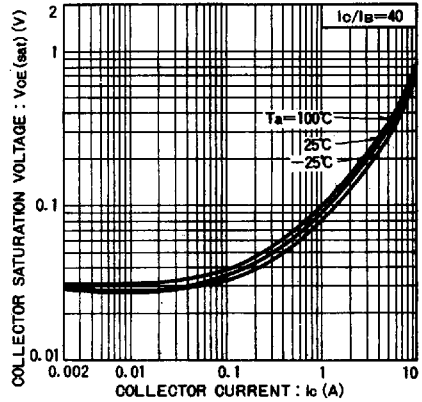


Figure 10

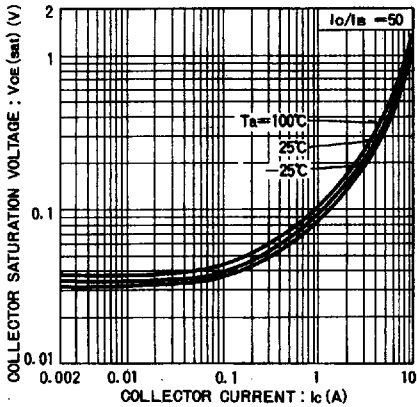


Figure 11

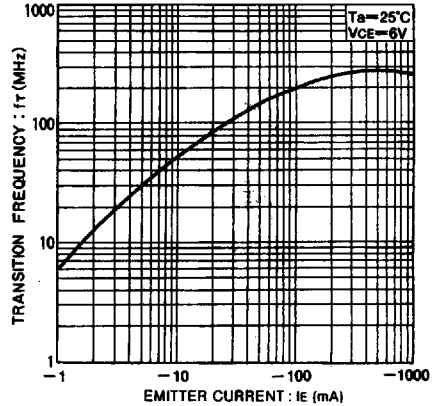


Figure 12

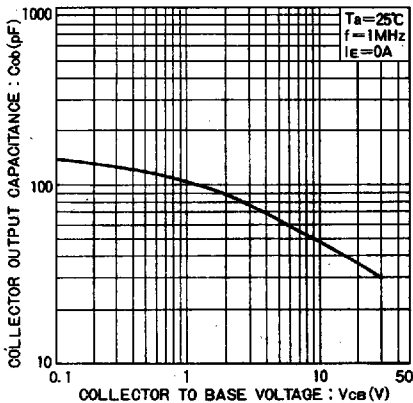


Figure 13

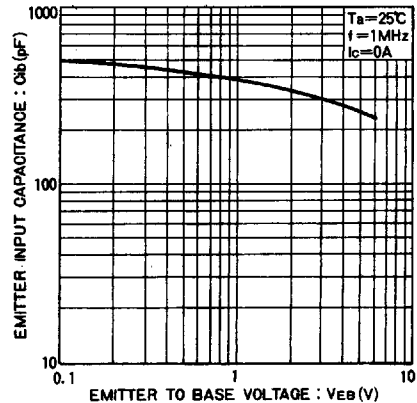


Figure 14

Ordering information

Package	Tape
Code	T100
Basic order quantity	1000
2SD2098	★
★ = Standard, ☆ = Semi-standard, * = Special order	