

2SD1758F5

Transistor, NPN

Features

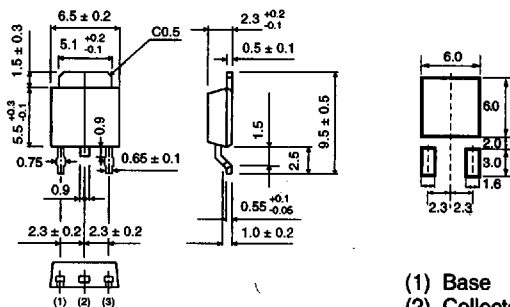
- available in CPT F5 (SC-63) package
- package marking: D1758★□, where ★ is h_{FE} code and □ is lot number
- general purpose transistor with ratings as follows:
 - $V_{CEO} = 32 \text{ V}$
 - $I_{C(max)} = 2 \text{ A}$
 - $P_{C(max)} = 10 \text{ W}$

Applications

- power amplifier

Dimensions (Units : mm)

2SD1758F5 (CPT F5)



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

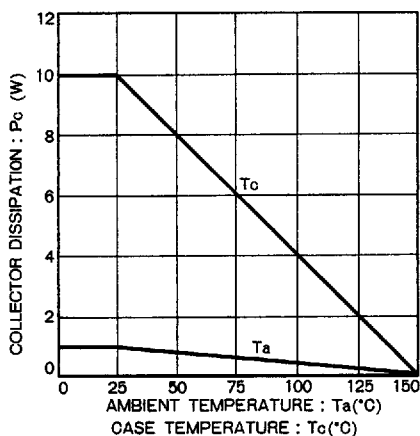
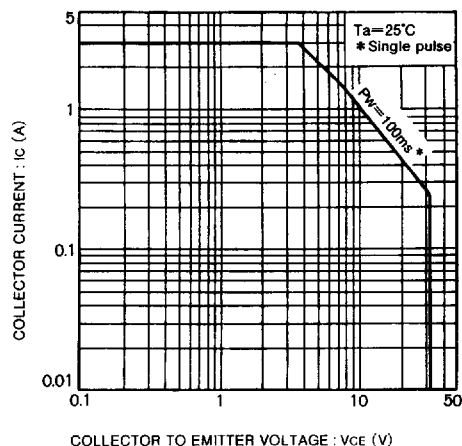
Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	40	V	
Collector-to-emitter voltage	V_{CEO}	32	V	
Emitter-to-base voltage	V_{EBO}	5	V	
Collector current	I_C	2	A	DC
		2.5		$P_W = 20 \text{ ms, duty} = 50\%$
Collector dissipation	P_C	1	W	$T_a = 25^\circ\text{C}$
		10		$T_C = 25^\circ\text{C}$
Junction temperature	T_J	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$	

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}	40			V	$I_C = 50\ \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	32			V	$I_C = 1\ \text{mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	5			V	$I_E = 50\ \mu\text{A}$
Collector cutoff current	I_{CBO}			1	μA	$V_{CB} = 20\ \text{V}$
Emitter cutoff current	I_{EBO}			1	μA	$V_{EB} = 4\ \text{V}$
DC current gain	h_{FE}	82		390		$V_{CE} = 3\ \text{V}$, $I_C = 0.5\ \text{A}$, single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$			0.8	V	$I_C/I_B = 2\ \text{A}/0.2\ \text{A}$, single pulse
Transition frequency	f_T		100		MHz	$V_{CE} = 5\ \text{V}$, $I_E = -0.5\ \text{A}$, $f = 100\ \text{MHz}$, single pulse
Output capacitance	C_{ob}		50		pF	$V_{CB} = 10\ \text{V}$, $I_E = 0\ \text{A}$, $f = 1\ \text{MHz}$

 h_{FE} rankings

Item	P	Q	R
h_{FE}	82 ~ 180	120 ~ 270	180 ~ 390

Electrical characteristic curves**Figure 1****Figure 2**

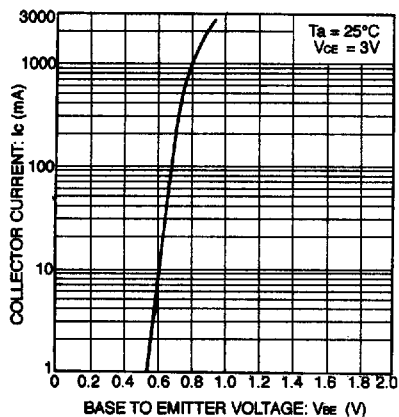


Figure 3

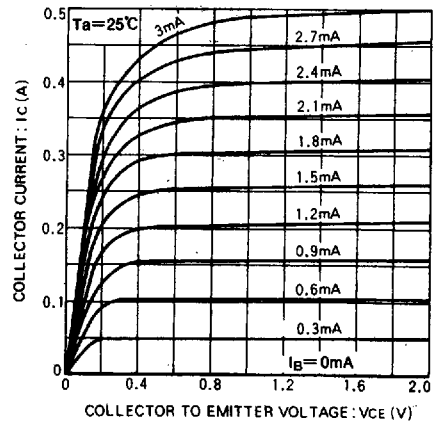


Figure 4

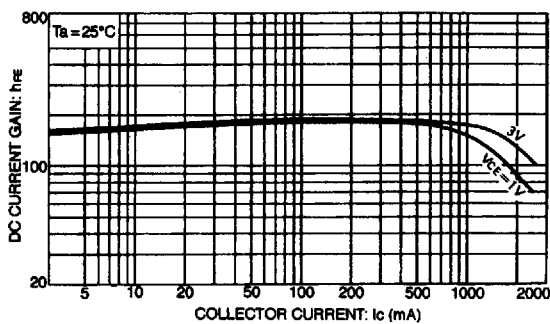


Figure 5

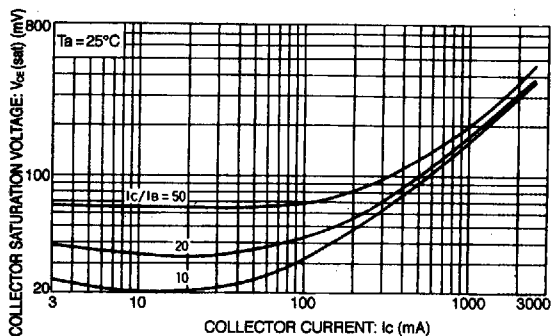


Figure 6

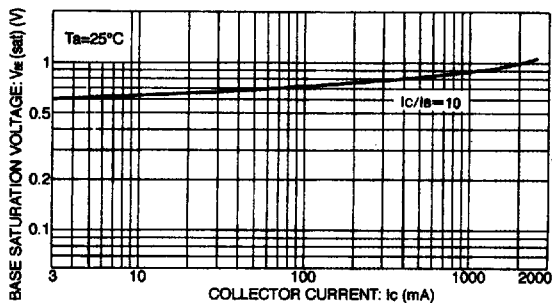


Figure 7

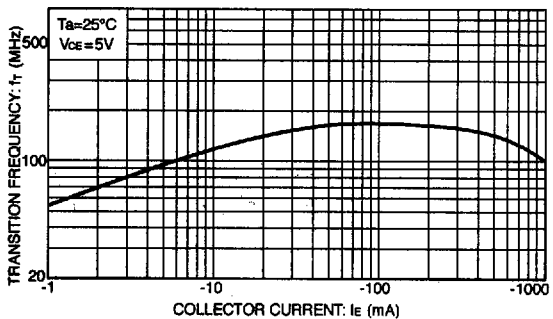
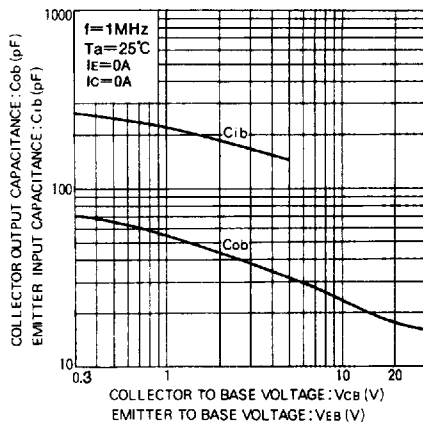


Figure 8

**Figure 9****Ordering information**

Package	Tape
Code	TL
Basic order quantity	2500
2SD1758 F5	☆
★ = Standard, ☆ = Semi-standard, * = Special order	