

2SD1775, 2SD1775A

Silicon NPN Triple-Diffused Planar Type

High DC Current Gain (h_{FE}), Power Amplifier

■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- "N Type" package configuration with a cooling fin for direct soldering on PC board of a small-size electronic equipment

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	2SD1775	80	V
	2SD1775A	100	V
Collector-emitter voltage	2SD1775	60	V
	2SD1775A	80	V
Emitter-base voltage	V_{EBO}	6	V
Peak collector current	I_{CP}	4	A
Collector current	I_C	2	A
Base current	I_B	0.5	A
Collector power dissipation	$T_c=25^\circ\text{C}$	25	W
	$T_a=25^\circ\text{C}$	1.3	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

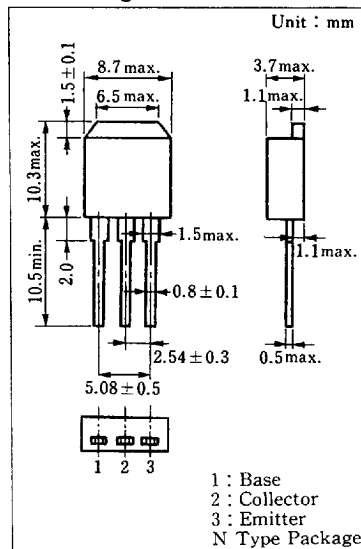
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=80\text{ V}, I_E=0$			100	μA
		$V_{CB}=100\text{ V}, I_F=0$			100	μA
Collector cutoff current	I_{CEO}	$V_{CE}=40\text{ V}, I_B=0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=6\text{ V}, I_C=0$			100	μA
Collector-emitter voltage	V_{CE0}	$I_C=25\text{ mA}, I_B=0$	60			V
			80			
DC current gain	h_{FE}^*	$V_{CE}=4\text{ V}, I_C=300\text{ mA}$	500		2500	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1\text{ A}, I_B=25\text{ mA}$			1.0	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1\text{ A}, I_B=25\text{ mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=12\text{ V}, I_C=200\text{ mA}, f=10\text{ MHz}$		40		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{ V}, I_E=0, f=1\text{ MHz}$		30		pF
Turn-on time	t_{on}	$I_C=1\text{ A}, I_{B1}=25\text{ mA}, I_{B2}=-25\text{ mA}$ $V_{CC}=50\text{ V}$		0.6		μs
Storage time	t_{stg}			2.5		μs
Fall time	t_f			1.0		μs

* h_{FE} Classifications

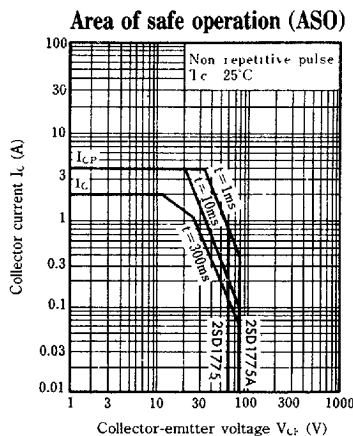
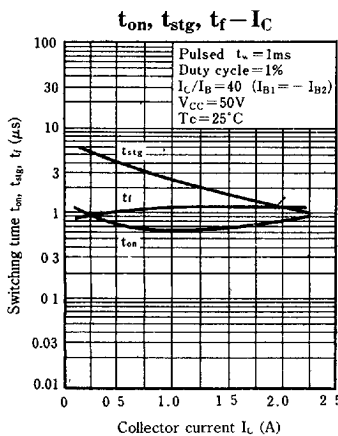
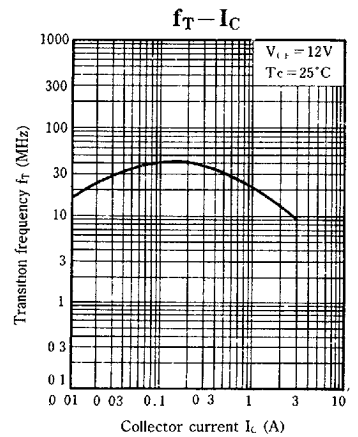
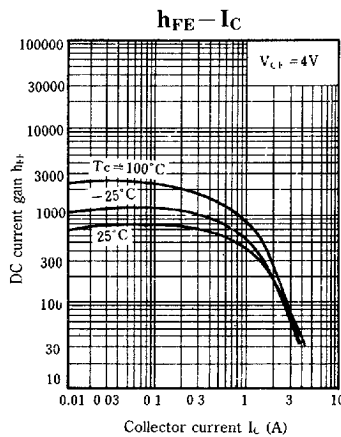
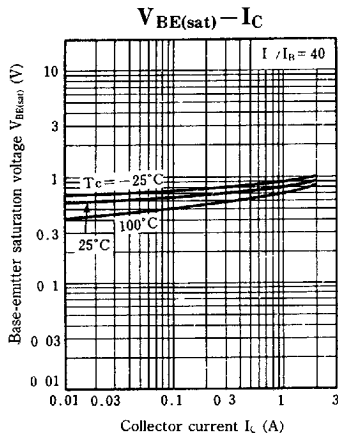
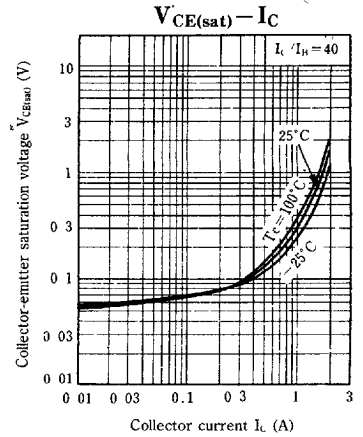
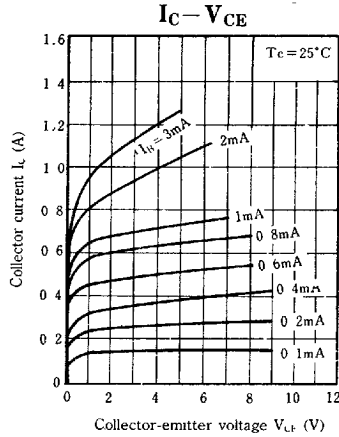
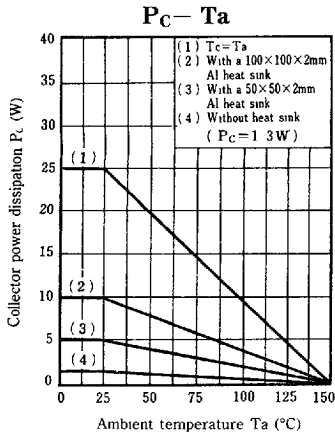
Class	Q	P	O
h_{FE}	500~1000	800~1500	1200~2500

■ Package Dimensions



*Surface-mount type is also available.
(Refer to p.82.)

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(Note) Refer to P.862 (on 2SD1771/A) for $R_{th(jc)} - t$ characteristics.