

2SD1755

Silicon NPN Epitaxial Planar Type

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

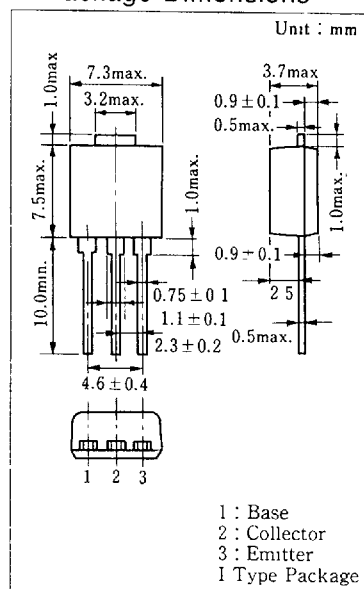
■ Features

- High DC current gain (h_{FE})
- Good linearity of DC current gain (h_{FE})
- High emitter-base voltage (V_{EBO})
- "I 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	V_{CBO}	100	V	
Collector-emitter voltage	V_{CEO}	60	V	
Emitter-base voltage	V_{EB0}	15	V	
Peak collector current	I_{CP}	12	A	
Collector current	I_C	6	A	
Base current	I_B	3	A	
Collector power dissipation	$T_c = 25^\circ\text{C}$	P_C	15	W
	$T_a = 25^\circ\text{C}$		1.3	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$	

■ Package Dimensions



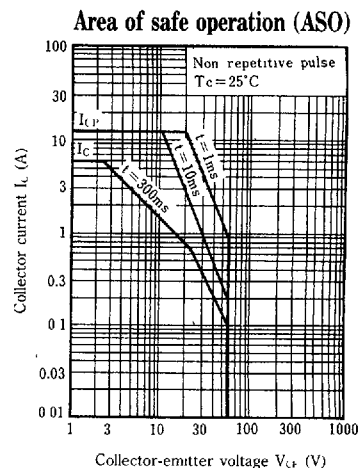
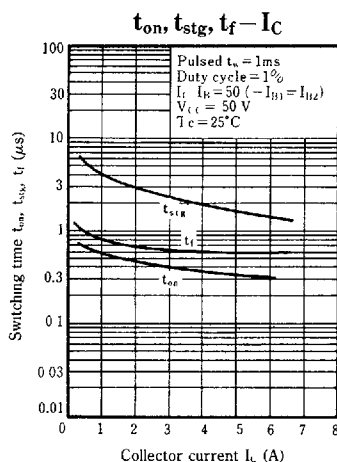
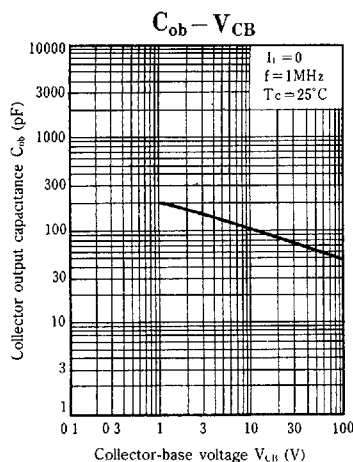
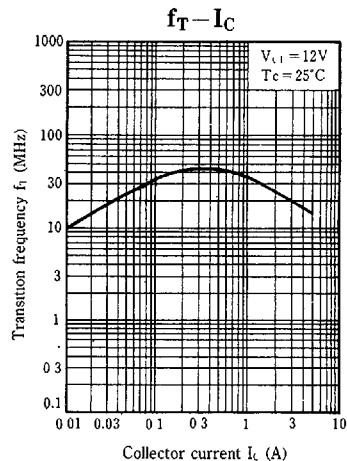
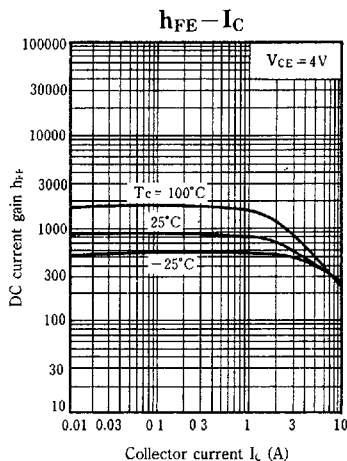
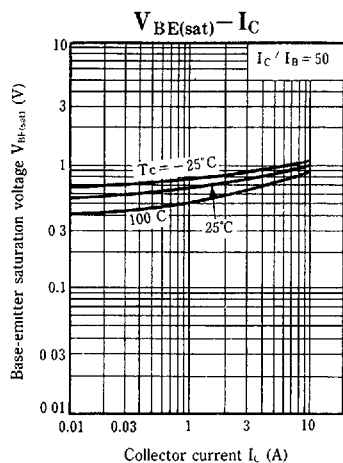
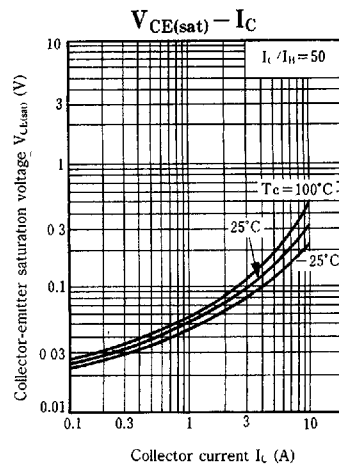
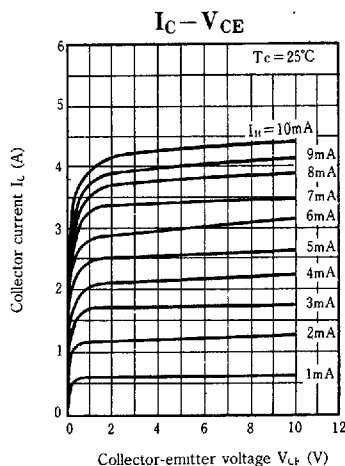
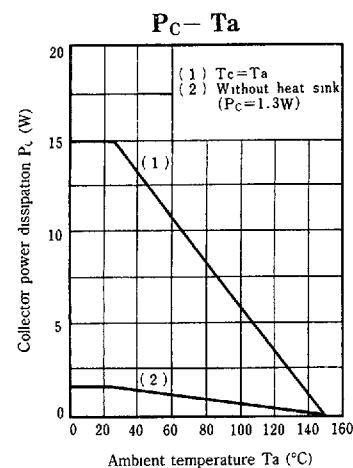
*Surface-mount type is also available.
(Refer to p.81.)

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

Item	Symbol	Condition	min	typ	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB}=100\text{ V}, I_B=0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=15\text{ V}, I_C=0$			100	μA
Collector-emitter voltage	V_{CEO}	$I_C=25\text{ mA}, I_B=0$	60			V
DC current gain	h_{FE}^*	$V_{CE}=4\text{ V}, I_C=1\text{ A}$	300		2500	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=5\text{ A}, I_B=0.1\text{ A}$			0.5	V
Transition frequency	f_T	$V_{CE}=12\text{ V}, I_C=0.5\text{ A}, f=10\text{ MHz}$		50		MHz
Turn-on time	t_{on}	$I_C=5\text{ A}, I_{B1}=0.1\text{ A}, I_{B2}=-0.1\text{ A}$ $V_{CC}=50\text{ V}$	0.3			μs
Storage time	t_{stg}			1.5		μs
Fall time	t_f			0.6		μs

* h_{FE} Classifications

Class	Q	P	O
h_{FE}	300~1200	800~2000	1200~2500



Note) Refer to P.842 (on 2SD1747/A) for $R_{\theta JA} - t$ characteristics.