

2SD1743, 2SD1743A

Silicon PNP Triple-Diffused Planar Type

Power Amplifier

Complementary Pair with 2SB1173, 2SB1173A

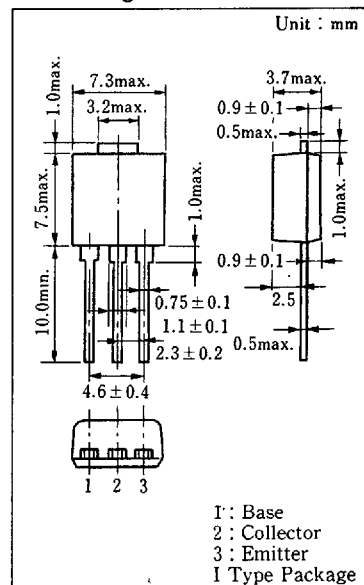
■ Features

- High DC current gain (h_{FE}) and good linearity
- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- "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	2SD1743	60	V
	2SD1743A	80	
Collector-emitter voltage	2SD1743	60	V
	2SD1743A	80	
Emitter-base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	8	A
Collector current	I_C	4	A
Collector power dissipation	$T_c=25^\circ\text{C}$	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.)

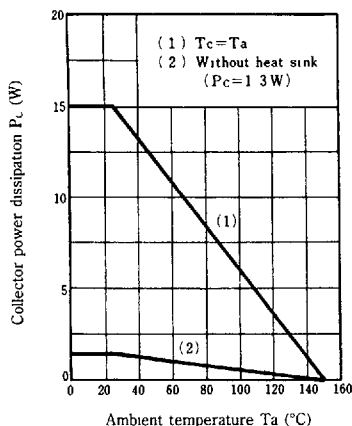
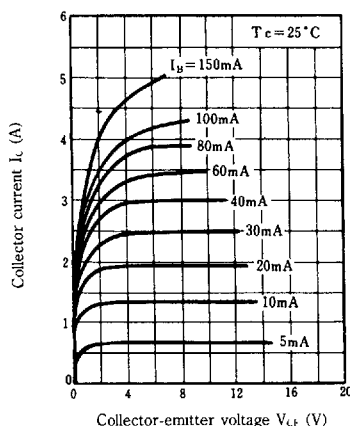
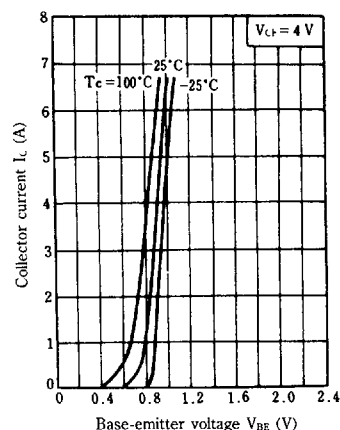
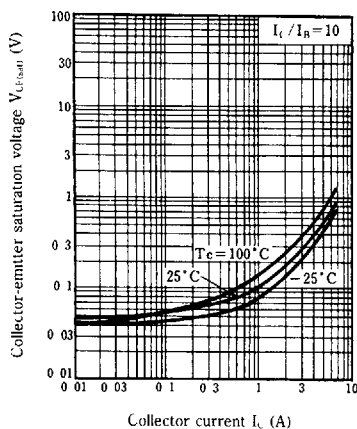
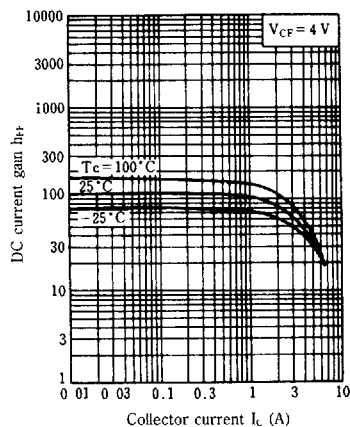
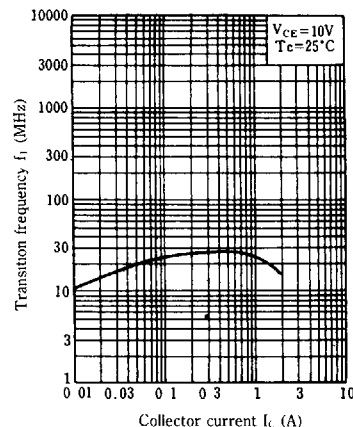
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD1743 2SD1743A	I_{CES} $V_{CE}=60\text{ V}, V_{BE}=0$ $V_{CE}=80\text{ V}, V_{BE}=0$			400	μA
					400	
Collector cutoff current	2SD1743 2SD1743A	I_{CEO} $V_{CE}=30\text{ V}, I_B=0$ $V_{CE}=60\text{ V}, I_B=0$			700	μA
					700	
Emitter cutoff current	I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			1	mA
Collector-emitter voltage	2SD1743	V_{CEO} $I_C=30\text{ mA}, I_B=0$	60			V
	2SD1743A		80			
DC current gain	h_{FE1}^*	$V_{CE}=4\text{ V}, I_C=1\text{ A}$	40		250	
		$V_{CE}=4\text{ V}, I_C=3\text{ A}$	15			
Base-emitter voltage	V_{BE}	$V_{CE}=4\text{ V}, I_C=3\text{ A}$			2	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4\text{ A}, I_B=0.4\text{ A}$			1.5	V
Transition frequency	f_T	$V_{CE}=10\text{ V}, I_C=0.5\text{ A}, f=10\text{ MHz}$		25		MHz
Turn-on time	t_{on}	$I_C=4\text{ A}, I_{B1}=0.4\text{ A}, I_{B2}=-0.4\text{ A}$ $V_{CC}=50\text{ V}$		0.4		μs
Storage time	t_{tsg}			1.2		μs
Fall time	t_f			0.5		μs

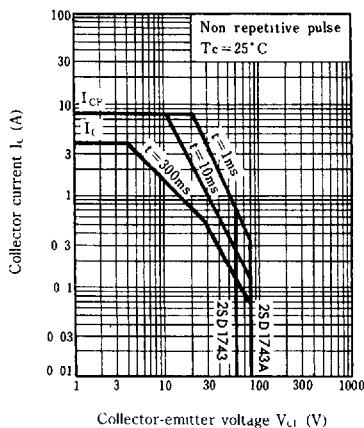
* h_{FE1} Classifications

Class	R	Q	P
h_{FE1}	40~90	70~150	120~250

■ 6932852 0016833 T71 ■

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$ 

Area of safe operation (ASO)

 $R_{th(t)} - t$ 