

2SD1249, 2SD1249A

Silicon NPN Triple-Diffused Planar Type

AF Power Amplifier

■ Features

- High collector-base voltage (V_{CBO})
- “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	2SD1249	V_{CBO}	350	V
	2SD1249A		400	
Collector-emitter voltage	2SD1249	V_{CEO}	250	V
	2SD1249A		300	
Emitter-base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	1.5	A
Collector current		I_C	0.75	A
Collector power dissipation	$T_c=25^{\circ}\text{C}$	P_C	35	W
	$T_a=25^{\circ}\text{C}$		1.3	
Junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	$-55\sim+150$	$^{\circ}\text{C}$

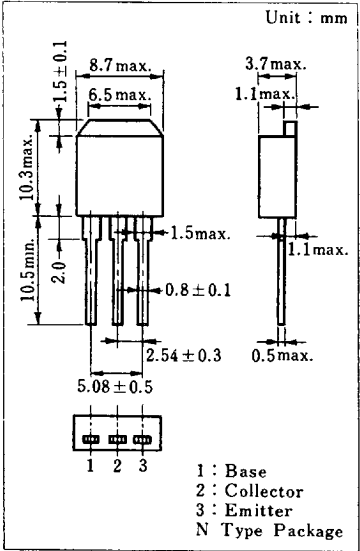
■ Electrical Characteristics ($T_c=25^{\circ}\text{C}$)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2SD1249	I_{CES}	$V_{CE}=350\text{ V}, V_{BE}=0$			1	mA
	2SD1249A		$V_{CE}=400\text{ V}, V_{BE}=0$			1	
Collector cutoff current	2SD1249	I_{CEO}	$V_{CE}=150\text{ V}, I_B=0$			1	mA
	2SD1249A		$V_{CE}=200\text{ V}, I_B=0$			1	
Emitter cutoff current		I_{EBO}	$V_{EB}=5\text{ V}, I_C=0$			1	mA
Collector-emitter voltage	2SD1249	V_{CEO}	$I_C=30\text{ mA}, I_B=0$	250			V
	2SD1249A			300			
DC current gan		h_{FF1}^*	$V_{CE}=10\text{ V}, I_C=0.3\text{ A}$	40		250	
		h_{FF2}	$V_{CE}=10\text{ V}, I_C=1\text{ A}$	10			
Base-emitter voltage		V_{BE}	$V_{CE}=10\text{ V}, I_C=1\text{ A}$			1.5	V
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C=1\text{ A}, I_B=0.2\text{ A}$			1	V
Transion frequency		f_T	$V_{CE}=10\text{ V}, I_C=0.2\text{ A}, f=10\text{ MHz}$		30		MHz
Turn-on time		t_{on}	$I_C=1\text{ A}, I_{B1}=0.1\text{ A}, I_{B2}=-0.1\text{ A}$ $V_{CC}=50\text{ V}$		0.5		$\mu\text{ s}$
Storage time		t_{stg}			2		$\mu\text{ s}$
Fall time		t_f			0.5		$\mu\text{ s}$

* h_{FE1} Classifications

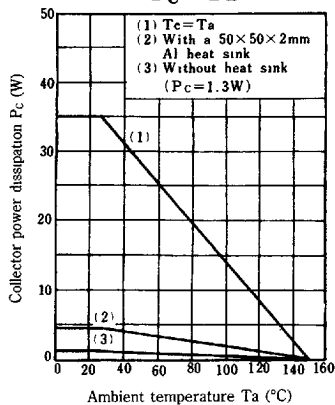
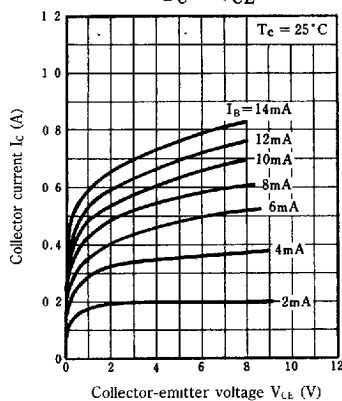
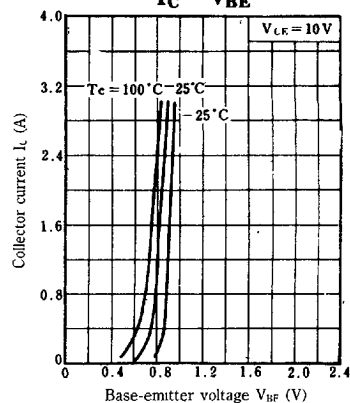
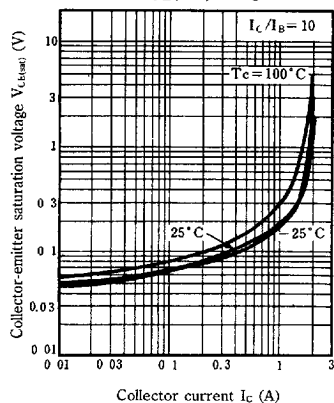
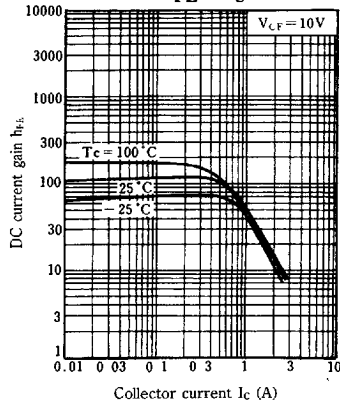
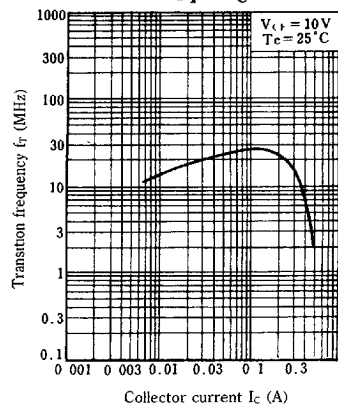
Class	R	Q	P
h_{FE1}	40~90	70~150	120~250

■ Package Dimensions

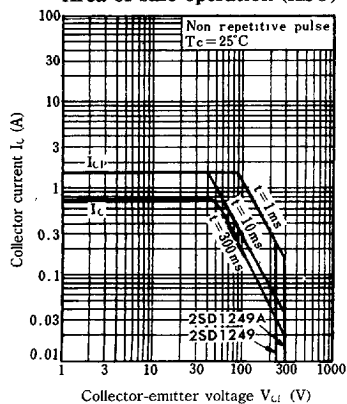


*Surface-mount type is also available.
(Refer to p.82.)

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

Area of safe operation (ASO)

 $R_{th(t)} - t$ 