

Power Transistors



# 2SD1249, 2SD1249A

## Silicon NPN triple diffusion planar type

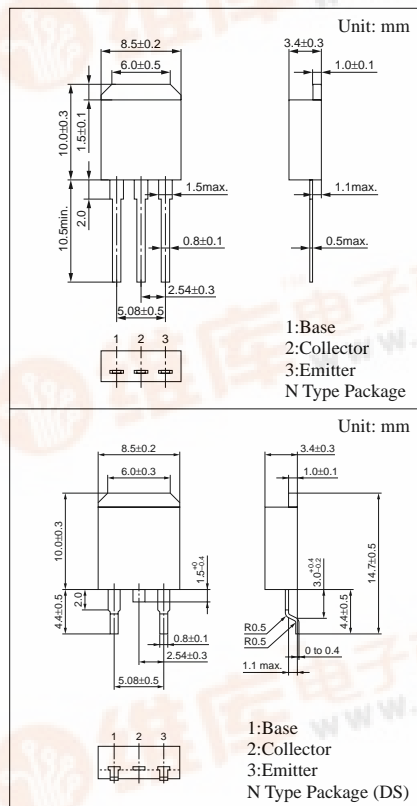
For low-frequency power amplification

### Features

- High collector to base voltage  $V_{CBO}$
- N type package enabling direct soldering of the radiating fin to the printed circuit board, etc. of small electronic equipment.

### Absolute Maximum Ratings ( $T_C=25^\circ C$ )

Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	350	V
Collector to emitter voltage	$V_{CEO}$	250	V
		300	V
Emitter to base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	1.5	A
Collector current	$I_C$	0.75	A
Collector power dissipation	$P_C$	35	W
		1.3	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$



### Electrical Characteristics ( $T_C=25^\circ C$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CES}$	$V_{CE} = 350V, V_{BE} = 0$			1	mA
		$V_{CE} = 400V, V_{BE} = 0$			1	mA
Collector cutoff current	$I_{CEO}$	$V_{CE} = 150V, I_B = 0$			1	mA
		$V_{CE} = 200V, I_B = 0$			1	mA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$			1	mA
Collector to emitter voltage	$V_{CEO}$	$I_C = 30mA, I_B = 0$	250			V
			300			V
Forward current transfer ratio	$h_{FE1}^*$	$V_{CE} = 10V, I_C = 0.3A$	40		250	
	$h_{FE2}$	$V_{CE} = 10V, I_C = 1A$	10			
Base to emitter voltage	$V_{BE}$	$V_{CE} = 10V, I_C = 1A$			1.5	V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.2A$			1	V
Transition frequency	$f_T$	$V_{CE} = 10V, I_C = 0.2A, f = 10MHz$		30		MHz
Turn-on time	$t_{on}$	$I_C = 1A, I_{B1} = 0.1A, I_{B2} = -0.1A, V_{CC} = 50V$		0.5		$\mu s$
Storage time	$t_{stg}$			2		$\mu s$
Fall time	$t_f$			0.5		$\mu s$

### Rank Classification

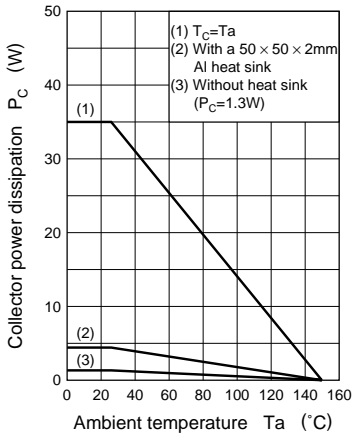
Rank	R	Q	P
$h_{FE1}$	40 to 90	70 to 150	120 to 250



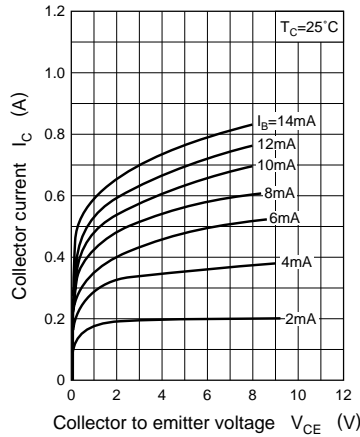
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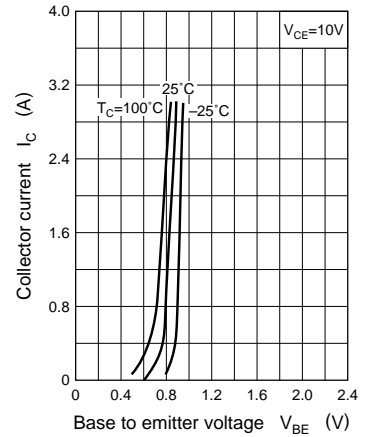
$P_C - T_a$



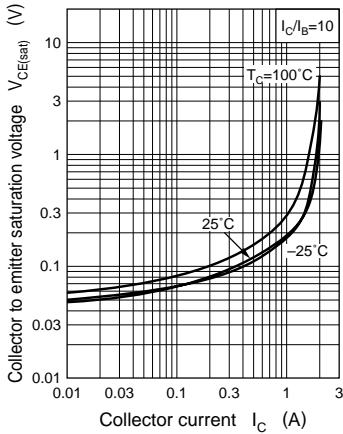
$I_C - V_{CE}$



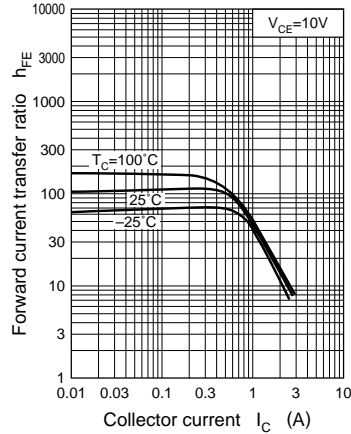
$I_C - V_{BE}$



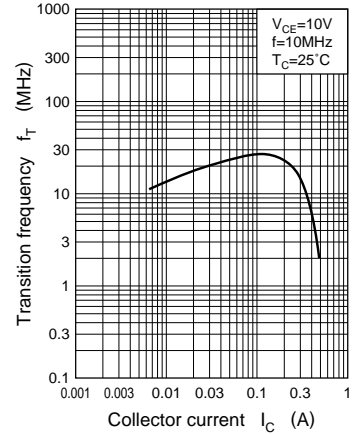
$V_{CE(sat)} - I_C$



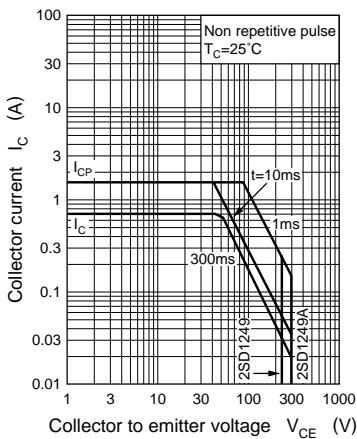
$h_{FE} - I_C$



$f_T - I_C$



Area of safe operation (ASO)



$R_{th(t)} - t$

