DATA SHEET

SILICON POWER TRANSISTOR 2SB548, 549/2SD414, 415

PNP/NPN SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS

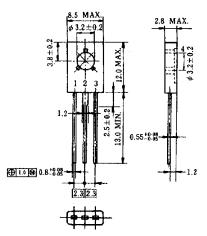
FEATURES

- · Ideal for audio amplifier drivers with 30 W to 50 W output
- High voltage
- · Available for small mount spaces due to small and thin package
- · Easy to be attached to radiators

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	2SB548/ 2SD414	2SB549/ 2SD415	Unit
Collector to base voltage	Vсво	-100/120		V
Collector to emitter voltage	VCEO	-80/80	-100/100	٧
Emitter to base voltage	VEBO	-5.0/5.0		V
Collector current	IC(DC)	-0.8/0.8		А
Collector current	C(pulse)*	-1.5/1.5		А
Total power dissipation	P⊤ (Ta = 25°C)	1.0		W
Total power dissipation	P⊤ (Tc = 25°C)	10		W
Junction temperature	Tj	150		°C
Storage temperature	Tstg	–55 to +150		°C

PACKAGE DRAWING (UNIT: mm)



Electrode Connection

1. Emitter

2. Collector connected to mounting plane

Base
 Fin (Collector)

* PW \leq 10 ms, duty cycle \leq 50%

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	Ісво	$V_{CB} = -80/80 \text{ V}, I_E = 0$			-1.0/1.0	μΑ
Emitter cutoff current	Іево	$V_{EB} = -3.0/3.0 \text{ V}, \text{ Ic} = 0$			-1.0/1.0	μA
DC current gain	hfe1	$V_{CE} = -5.0/5.0 \text{ V}, \text{ Ic} = -2.0/2.0 \text{ mA}^*$	20			
DC current gain	hfe2	$V_{CE} = -5.0/5.0 \text{ V}, \text{ Ic} = -200/200 \text{ mA}^*$	40	90	320	
Collector saturation voltage	VCE(sat)	Ic = -500/500 mA, Iв = -50/50 mA*		-0.4/0.3	-2.0/2.0	V
Base saturation voltage	V _{BE(sat)}	Ic = -500/500 mA, Iв = -50/50 mA*		-0.9/0.9	-1.5/1.5	V
Gain bandwidth product	f⊤	$V_{CE} = -5.0/5.0 \text{ V}, \text{ Ic} = -100/100 \text{ mA}$		70/45		MHz
Collector capacitance	Cob	$V_{CB} = -10/10 V$, $I_E = 0$, $f = 1.0 MHz$		25/15		pF

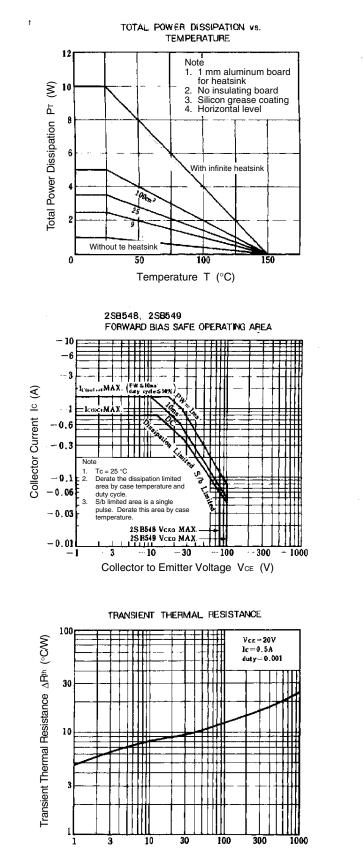
* Pulse test PW \leq 350 μ s, duty cycle \leq 2%

hFE2 CLASSIFICATION

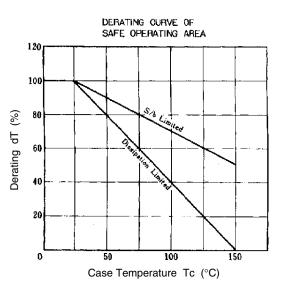
Marking	S	R	Q	Р
hfe2	40 to 80	60 to 120	100 to 200	160 to 320

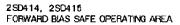
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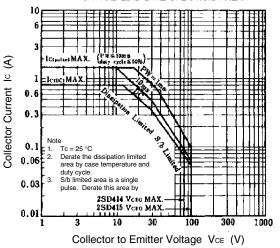
TYPICAL CHARACTERISTICS (Ta = 25°C)

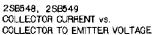


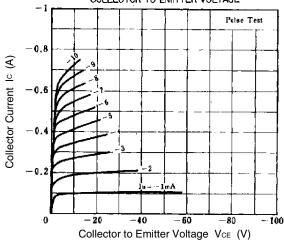
Pulse Width PW (ms)

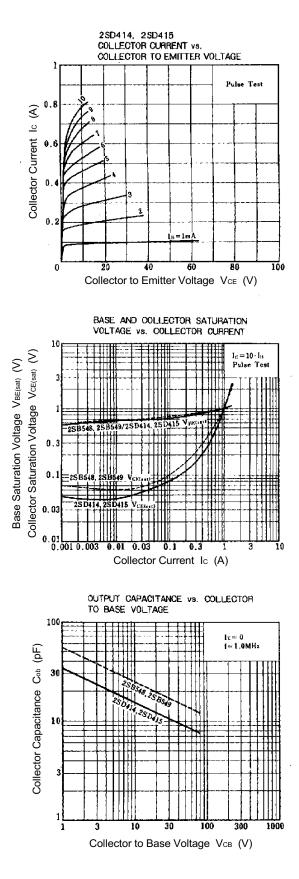




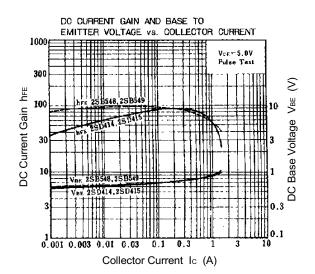




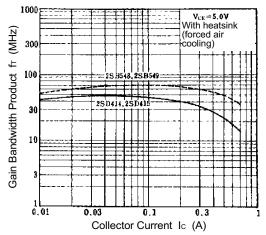




NEC



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



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