

SILICON TRANSISTOR 2SD2402

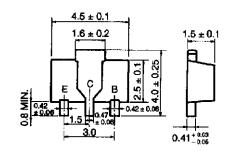
NPN SILICON EPITAXIAL TRANSISTOR FOR LOW-FREQUENCY POWER AMPLIFIERS AND MID-SPEED SWITCHING

The 2SD2402 is a transistor featuring high current capacitance in small dimension. This transistor is ideal for DC/DC converters and motor drivers.

FEATURES

- · High current capacitance
- · Low collector saturation voltage
- · Complementary transistor with 2SB1571

PACKAGE DRAWING (UNIT: mm)



Electrode Connection

E : Emitter
C : Collector(Fin)
B : Base

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Conditions	Ratings	Unit
Collector to base voltage	Vcво		50	V
Collector to emitter voltage	VCEO		30	V
Emitter to base voltage	V _{EBO}		6.0	V
Collector current (DC)	Ic(DC)		5.0	Α
Collector current (pulse)	IC(pulse)	PW ≤ 10 ms duty cycle ≤ 50 %	8.0	Α
Base current (DC)	I _{B(DC)}		0.2	Α
Base current (pulse)	B(pulse)	PW ≤ 10 ms duty cycle ≤ 50 %	0.4	Α
Total power dissipation	Рт	16 cm ² × 0.7 mm ceramic board mounted	2.0	W
Junction temperature	Tj		150	°C
Storage temperature	T _{stg}		−55 to +150	°C

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

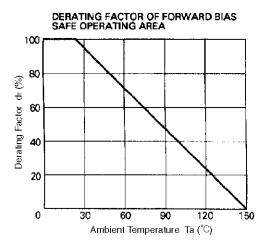
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	Ісво	V _{CB} = 50 V, I _E = 0			100	nA
Emitter cutoff current	ІЕВО	V _{EB} = 6.0 V, I _C = 0			100	nA
DC current gain	h _{FE1}	Vce = 1.0 V, Ic = 1.0 A				-
DC current gain	h _{FE2}	VcE = 1.0 V, Ic = 2.0 A	100	200	400	-
DC base voltage	VBE	VcE = 1.0 V, Ic = 0.1 A	600	650	700	mV
Collector saturation voltage	VCE(sat)1	Ic = 3.0 V, Iв = 0.15 A		140	300	mV
Collector saturation voltage	VCE(sat)2	Ic = 5.0 V, I _B = 0.25 A		230	500	mV
Base saturation voltage	V _{BE(sat)}	Ic = 3.0 V, I _B = 0.15 A		0.88	1.2	٧
Gain bandwidth product	f⊤	VcE = 10 V, IE = -0.5 A		170		MHz
Output capacitance	Cob	V _{CB} = 10 V, I _E = 0, f = 1 MHz		60		pF
Turn-on time	ton	Ic = 2.0 A, Vcc= 10 V		275		ns
Storage time	t stg	I _{B1} = -I _{B2} = 0.1 A R _L = 500 Ω		485		ns
Fall time	tf	nt = 300 32		45		ns

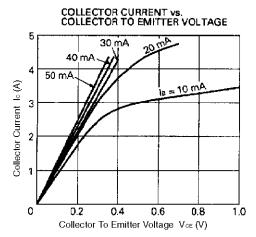
hfe CLASSIFICATION

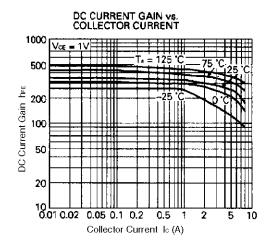
Marking	EX	EY	EZ	
h _{FE2}	100 to 200	160 to 320	200 to 400	

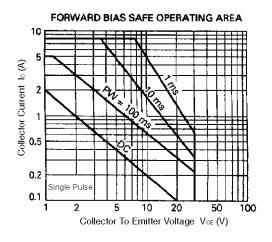


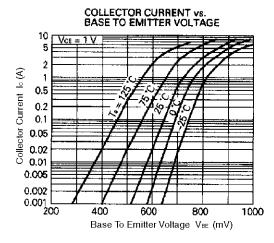
TYPICAL CHARACTERISTICS (Ta = 25°C)

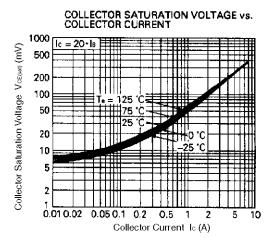




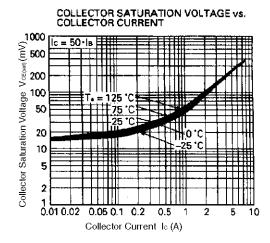


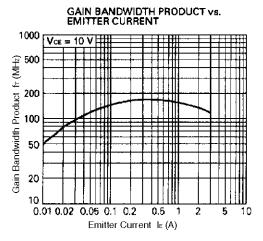


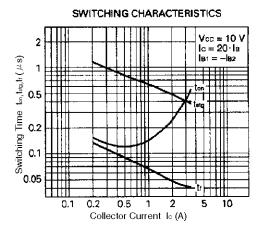


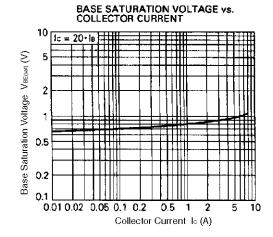


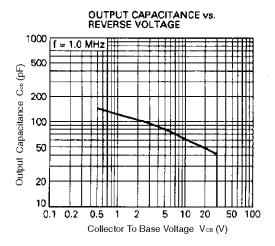
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