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April 1st, 2010 Renesas Electronics Corporation

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SILICON TRANSISTOR 2SD2425

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

The 2SD2425 is a transistor featuring high current capacitance in small dimension. This transistor is ideal for DC/DC converters and motor drivers.

FEATURES

- New package with dimensions in between those of small signal and power signal package
- · High current capacitance
- Low collector saturation voltage
- · Complementary transistor with 2SB1578

QUALITY GRADES

Standard

Please refer to "Quality Grades on NEC Semiconductor Devices" (Document No. C11531E) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

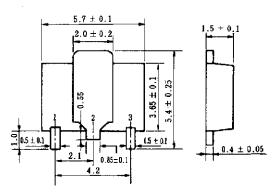
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Conditions	Ratings	Unit
Collector to base voltage	Vсво		60	V
Collector to emitter voltage	VCEO		60	V
Emitter to base voltage	Vebo		6.0	V
Collector current (DC)	IC(DC)		5.0	А
Collector current (pulse)	C(pulse)	PW \leq 10 ms, duty cycle \leq 50 %	7.0	А
Base current (DC)	B(DC)		1.0	А
Total power dissipation	Ρτ	7.5 $\text{cm}^2 \times 0.7$ mm ceramic board mounted	2.0	W
Junction temperature	Tj		150	°C
Storage temperature	Tstg		–55 to +150	°C

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PACKAGE DRAWING (UNIT: mm)



Electrode connection 1. Emitter

2. Collector

^{3.}Base

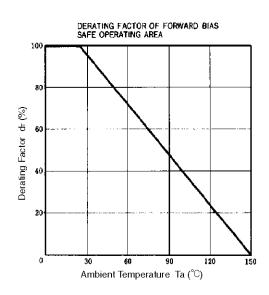
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

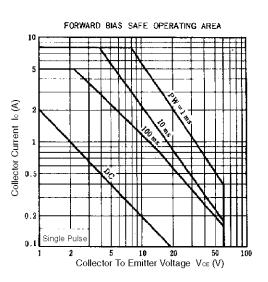
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	Ісво	$V_{CB} = 50 \text{ V}, \text{ I}_{E} = 0$			10	μA
Emitter cutoff current	Іево	VEB = 6.0 V, Ic = 0			10	μA
DC current gain	hfe1	Vce = 1.0 V, Ic = 0.1 A	60	180		-
DC current gain	hFE2	Vce = 1.0 V, Ic = 2.0 A	100	200	400	-
DC current gain	hfeg	Vce = 2.0 V, Ic = 5.0 A	50	150		-
Collector saturation voltage	VCE(sat)	Ic = 2.0 A, I _B = 0.2 A		90	300	mV
Base saturation voltage	VBE(sat)	Ic = 2.0 A, I _B = 0.2 A		0.9	1.2	V
Turn-on time	ton	Ic = 2.0 A, Vcc= 10 V		0.6		μs
Storage time	tstg	$I_{B1} = -I_{B2} = 0.2 \text{ A}$ $R_L = 5.0 \Omega$		0.8		μs
Fall time	tr			0.08		μs

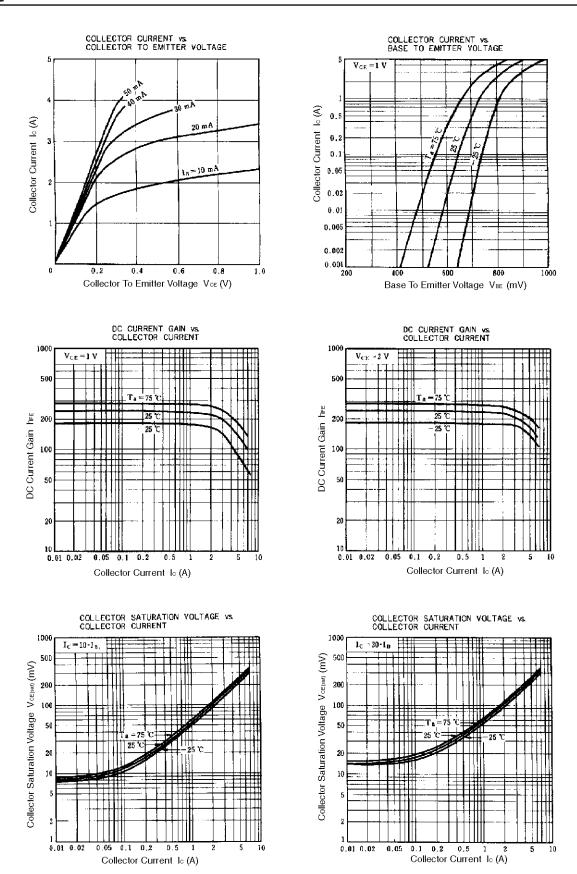
hfe CLASSIFICATION

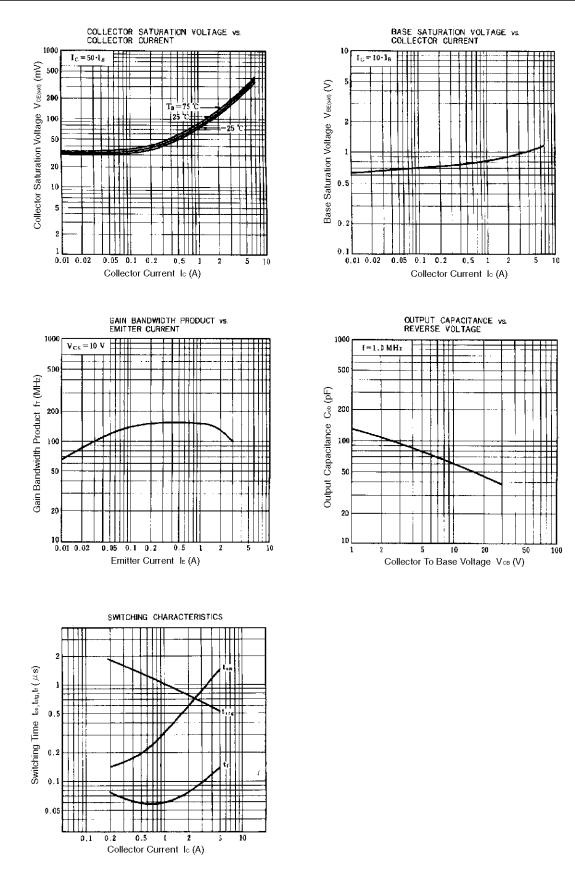
Marking	AB1	AB2	AB3	
hfe2	100 to 200	160 to 320	200 to 400	

TYPICAL CHARACTERISTICS (Ta = 25°C)









[MEMO]

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