

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Phase-out/Discontinued

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

The 2SD2463 is a Darlington connection transistor with on-chip dumper diode in collector to emitter and zener diode in collector to base. This transistor is ideal for use in acuator drives such as motors, relays, and solenoids.

FEATURES

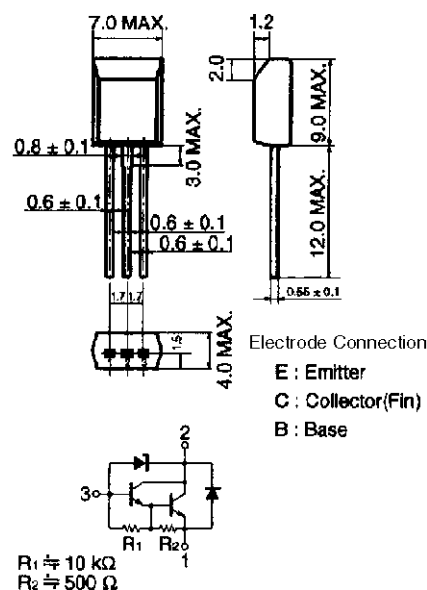
- Cost reduction available due to on-chip dumper diode (C to E) and zener diode (C to B)
- Low collector saturation voltage
- Insulation type package supportable for radial taping

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.

PACKAGE DRAWING (UNIT: mm)



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Conditions	Ratings	Unit
Collector to base voltage	V_{CBO}		31±4	V
Collector to emitter voltage	V_{CEO}		31±4	V
Emitter to base voltage	V_{EBO}		8.0	V
Collector current (DC)	$I_{C(DC)}$	$T_c = 25^\circ\text{C}$	±2.0	A
Collector current (pulse)	$I_{C(pulse)}$	$PW \leq 10\text{ ms}$, Duty cycle $\leq 50\%$, $T_c = 25^\circ\text{C}$	±3.0	A
Base current (DC)	$I_{B(DC)}$		0.2	A
Total power dissipation	P_T		1.0	W
Total power dissipation	P_T	$T_c = 25^\circ\text{C}$	6.0	W
Junction temperature	T_j		150	°C
Storage temperature	T_{stg}		-55 to +150	°C

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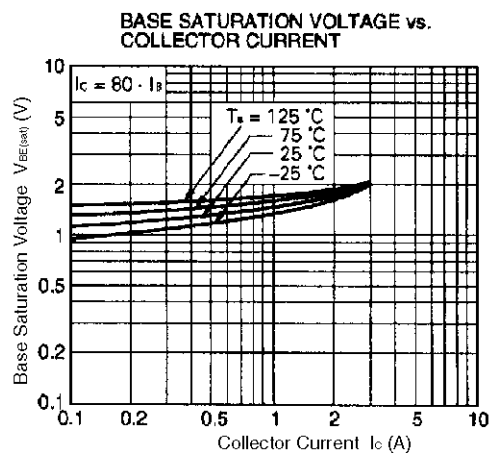
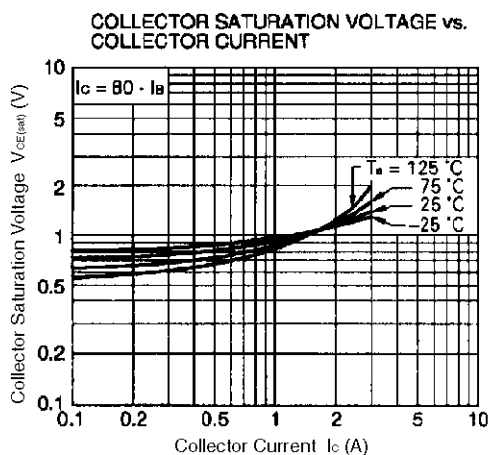
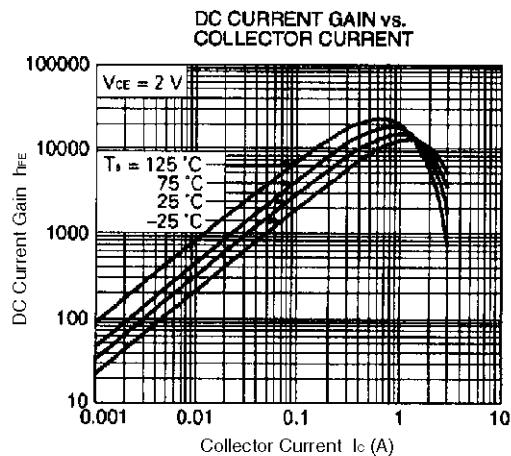
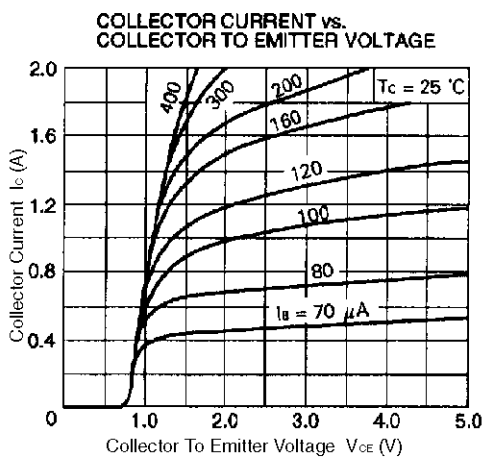
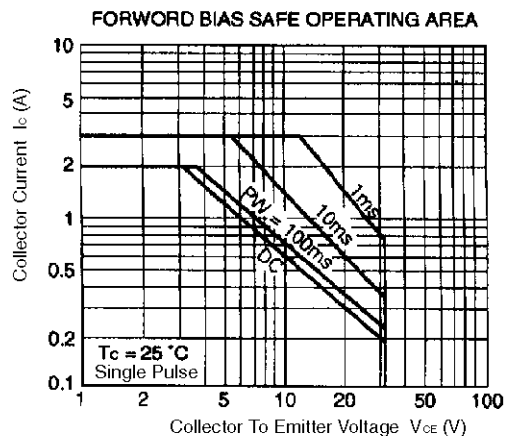
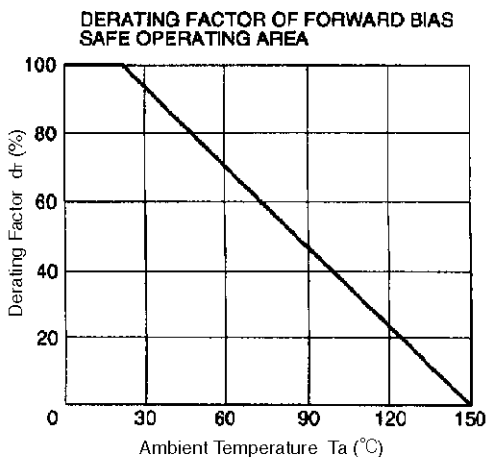
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$			10	μA
DC current gain	h_{FE1}	$V_{CE} = 2.0\text{ V}, I_C = 0.5\text{ A}$	1000			–
DC current gain	h_{FE2}	$V_{CE} = 2.0\text{ V}, I_C = 1.0\text{ A}$	2000		30000	–
Collector saturation voltage	$V_{CE(sat)}$	$I_C = 1.0\text{ A}, I_B = 1.0\text{ mA}$		0.9	1.2	V
Base saturation voltage	$V_{BE(sat)}$	$I_C = 1.0\text{ A}, I_B = 1.0\text{ mA}$		1.6	2.0	V
Turn-on time	t_{on}	$I_C = 1.0\text{ A}, V_{CC} = 20\text{ V}$ $I_{B1} = -I_{B2} = 0.5\text{ mA}$ $R_L = 20\ \Omega$		0.5		μs
Storage time	t_{stg}			3.0		μs
Turn-off time	t_f			1.0		μs

h_{FE} CLASSIFICATION

Marking	M	L	K
h_{FE2}	2000 to 5000	4000 to 10000	8000 to 30000

TYPICAL CHARACTERISTICS (Ta = 25°C)



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