Old Company Name in Catalogs and Other Documents

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April 1st, 2010 Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)
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SILICON TRANSISTOR 2SC3840

NPN SILICON TRIPLE DIFFUSED TRANSISTOR HIGH SPEED HIGH VOLTAGE SWITCHING

DESCRIPTION

The 2SC3840 is designed for use in high speed and high voltage switching. It is suitable for switching regulators, DC-DC converters and ultrasonic appliance applications.

FEATURES

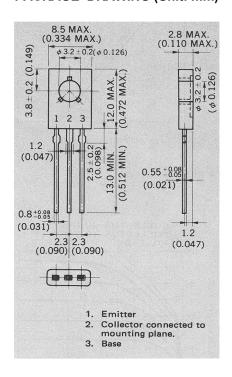
- · High speed switching
- · High voltage

ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

Collector to Base Voltage	Vсво	600	V
Collector to Emitter Voltage	VCEO	600	V
Emitter to Base Voltage	VEBO	7.0	V
Collector Current (DC)	Ic(DC)	1.0	Α
Collector Current (pulse) Note	C(pulse)	2.0	Α
Total Power Dissipation (Tc = 25°C)	PT	15	W
Junction Temperature	T_{j}	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

Note PW \leq 300 μ s, Duty Cycle \leq 10%

PACKAGE DRAWING (Unit: mm)



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ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
ton	Turn-On Time		0.1	0.5	μs		
^t stg	Storage Time		4.0	5.0	μs	$I_C = 0.5 \text{ A}, I_{B1} = -I_{B2} = 0.1 \text{ A}$ $R_L = 500 \Omega, V_{CC} = 250 \text{ V}$	
tf	Fall Time		0.2	0.5	μs		
hFE1**	DC Current Gain	30		120	_	V _{CE} = 5.0 V, I _C = 0.1 A	
hFE2**	DC Current Gain	5			-	$V_{CE} = 5.0 \text{ V}, I_{C} = 0.5 \text{ A}$	
VCE(sat)**	Collector Saturation Voltage			1.0	V	I _C = 0.4 A, I _B = 0.08 A	
V _{BE} (sat)**	Base Saturation Voltage			1.2	V	I _C = 0.4 A, I _B = 0.08 A	
Ісво	Collector Cutoff Current			10	μΑ	V _{CB} = 600 V, I _E = 0	
I _{EBO}	Emitter Cutoff Current			10	μΑ	V _{EB} = 7.0 V, I _C = 0	

^{**}Pulsed: PW \leq 350 μ s, Duty Cycle \leq 2 %

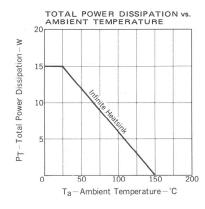
Classification of h_{FE1}

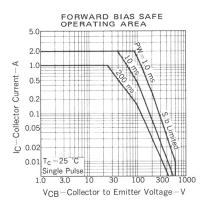
Rank	M	L	K	
Range 30 to 60		40 to 80	60 to 120	

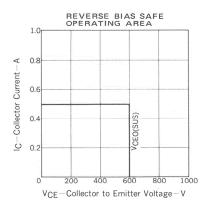
Test Conditions: V_{CE} = 5.0 V, I_C = 0.1 A

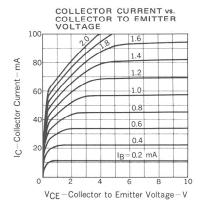


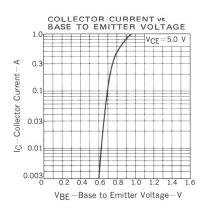
TYPICAL CHARACTERISTICS (Ta = 25 °C)

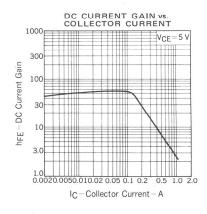


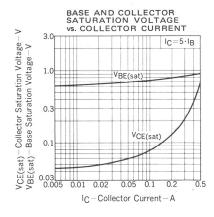


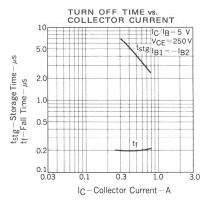


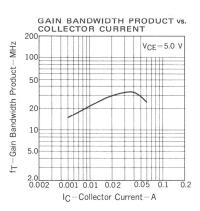


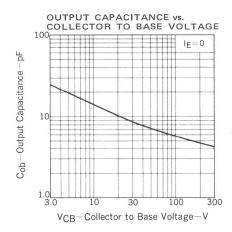


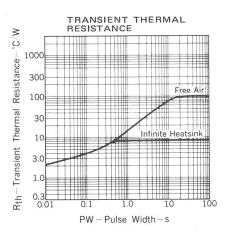












NEC 2SC3840

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