

To our customers,

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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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NPN SILICON TRANSISTOR 2SC3740

DESCRIPTION The 2SC3740 is a Low $V_{CE(sat)}$ transistor which has a large Current Capability.

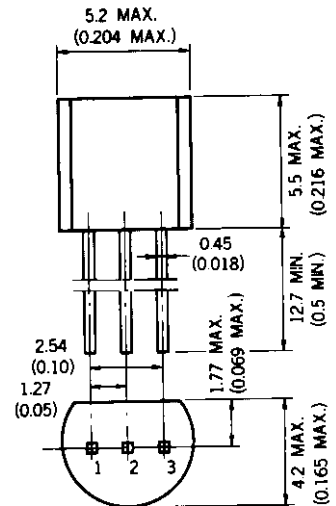
- FEATURES**
- Low Collector Saturation Voltage
 $V_{CE(sat)} = 0.06 \text{ V MAX. (@} I_C/I_B = 100 \text{ mA}/10 \text{ mA)}$
 - Complementary to 2SA1465

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Junction Temperature	150 °C Maximum
Maximum Power Dissipation ($T_a = 25 \text{ °C}$)	
Total Power Dissipation	750 mW
Maximum Voltages and Currents ($T_a = 25 \text{ °C}$)	
V_{CBO} Collector to Base Voltage	30 V
V_{CEO} Collector to Emitter Voltage	25 V
V_{EBO} Emitter to Base Voltage	6.0 V
I_C Collector Current (DC)	1.0 A
I_C Collector Current (pulse)*	1.5 A

* $PW \leq 10 \text{ ms}$, Duty Cycle $\leq 50 \%$

PACKAGE DIMENSIONS
in millimeters (inches)



- | | |
|--------------|---------------|
| 1. EMITTER | EIAJ : SC-43B |
| 2. COLLECTOR | JEDEC : TO-92 |
| 3. BASE | IEC : PA33 |

ELECTRICAL CHARACTERISTICS ($T_a = 25 \text{ °C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}^{**}	DC Current Gain	110	200	400	—	$V_{CE} = 1.0 \text{ V}$, $I_C = 100 \text{ mA}$
h_{FE2}^{**}	DC Current Gain	50	160		—	$V_{CE} = 1.0 \text{ V}$, $I_C = 1.0 \text{ A}$
f_T	Gain Bandwidth Product	100	150		MHz	$V_{CE} = 10 \text{ V}$, $I_E = -100 \text{ mA}$
C_{ob}	Output Capacitance		9	20	pF	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
I_{CBO}	Collector Cutoff Current			100	nA	$V_{CB} = 30 \text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			100	nA	$V_{EB} = 6.0 \text{ V}$, $I_C = 0$
V_{BE}^{**}	Base to Emitter Voltage	600	650	700	mV	$V_{CE} = 1.0 \text{ V}$, $I_C = 10 \text{ mA}$
$V_{CE(sat)1}^{**}$	Collector Saturation Voltage			0.06	V	$I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$
$V_{CE(sat)2}^{**}$	Collector Saturation Voltage			0.23	V	$I_C = 500 \text{ mA}$, $I_B = 20 \text{ mA}$
$V_{BE(sat)}^{**}$	Base Saturation Voltage			1.2	V	$I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$

** Pulsed $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2 \%$

Classification of h_{FE1}

Rank	M	L	K
Range	110 to 180	135 to 270	200 to 400

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

