NEC

NPN SILICON POWER TRANSISTOR 2SC3840

DESCRIPTION

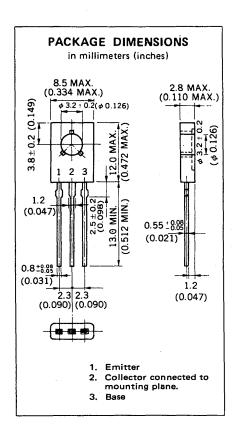
The 2SC3840 is designed for use in high speed and high voltage. It is suitable for switching regulators, DC-DC converters and ultrasonic appliance applications.

FEATURES

- High speed switching
- High Voltage

ABSOLUTE MAXIMUM RATINGS

Maximum Tem	peratures		
	emperature5		
Junction	Temperature 150 '	°C Max	imum
Maximum Powe	er Dissipation (T _C = 25 °C)		
Total Pov	15	W	
Maximum Volta	ages and Currents ($T_a = 25$ °C)		
V _{CBO}	Collector to Base Voltage	600	٧
V _{CEO}	Collector to Emitter Voltage	600	٧
V_{EBO}	Emitter to Base Voltage	7.0	٧
I _{C(DC)}	Collector Current (DC)	1.0	Α
¹ C(pulse)	Collector Current (Pulse)*	2.0	Α
*PW ≦	300 μs, Duty Cycle ≦ 10 %		



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
ton	Turn-On Time		0.1	0.5	μs	Ic = 0.5 A, I _{B1} = -I _{B2} = 0.1 A	
t _{stg}	Storage Time		4.0	5.0	μs	$R_1 = 500 \Omega, V_{CC} = 250 V$	
tf	Fall Time		0.2	0.5	μs		
hFE1**	DC Current Gain	30		120	-	$V_{CE} = 5.0 \text{ V}, I_{C} = 0.1 \text{ A}$	
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	$I_C = 0.4 \text{ A}, I_B = 0.08 \text{ A}$	
Ісво	*Collector Cutoff Current			10	μΑ	$V_{CB} = 600 \text{ V}, I_E = 0$	
IEBO	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 hFE1

Rank	М	L	К
Range	30 to 60	40 to 80	60 to 120

Test Conditions: VCE = 5.0 V, IC = 0.1 A

TYPICAL CHARACTERISTICS (Ta = 25 °C)

