

2SC4040

Transistor, NPN

Features

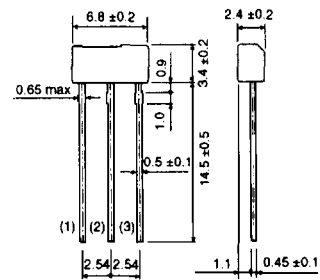
- available in FTL TL2 package
- large collector power dissipation:
 $P_C = 600 \text{ mW}$
- low collector saturation voltage
typically $V_{CE(sat)} = 0.15 \text{ V}$ at
 $I_C/I_B = 500 \text{ mA}/50 \text{ mA}$
- complementary pair with 2SA1560

Applications

- medium power amplifier

Dimensions (Units : mm)

2SC4040 (FTL TL2)



- (1) Emitter
- (2) Collector
- (3) Base

Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	40	V	
Collector-to-emitter voltage	V_{CEO}	32	V	
Emitter-to-base voltage	V_{EBO}	5	V	
Collector current	I_C	1	A	Continuous (dc)
		1.5	A	Single pulse, $P_W = 100 \text{ ms}$
Collector dissipation	P_C	600	mW	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	40			V	$I_C = 50 \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	32			V	$I_C = 1 \text{ mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	5			V	$I_E = 50 \mu\text{A}$
Collector cutoff current	I_{CBO}			0.5	μA	$V_{CB} = 20 \text{ V}$
Emitter cutoff current	I_{EBO}			0.5	μA	$V_{EB} = 4 \text{ V}$
DC current gain	h_{FE}	82		390		$V_{CE} = 3 \text{ V}, I_C = 100 \text{ mA}$
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		0.15	0.4	V	$I_C / I_B = 500 \text{ mA} / 50 \text{ mA}$
Transition frequency	f_T	50	150		MHz	$V_{CE} = 5 \text{ V}, I_E = -50 \text{ mA}, f = 100 \text{ MHz}$
Output capacitance	C_{ob}		15	30	pF	$V_{CB} = 10 \text{ V}, I_E = 0 \text{ A}, f = 1 \text{ MHz}$

h_{FE} rankings

Item	P	Q	R
h_{FE}	82 ~ 180	120 ~ 270	180 ~ 390

Electrical characteristic curves

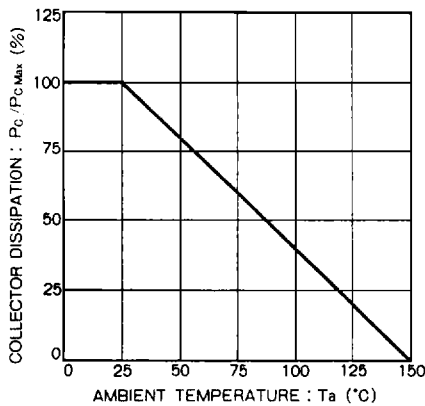


Figure 1

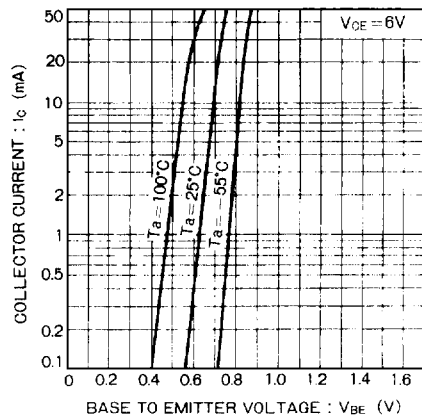


Figure 2

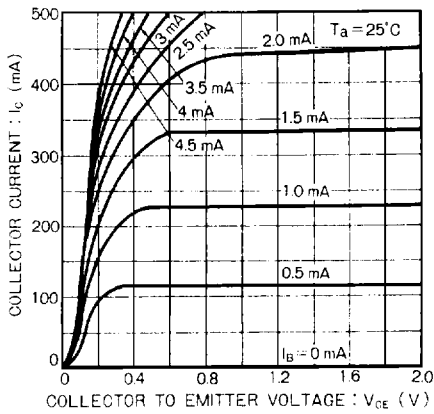


Figure 3

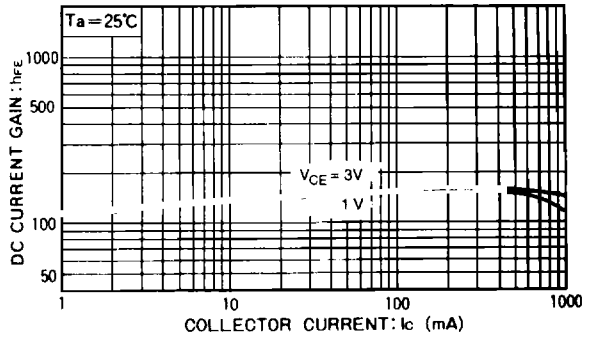


Figure 4

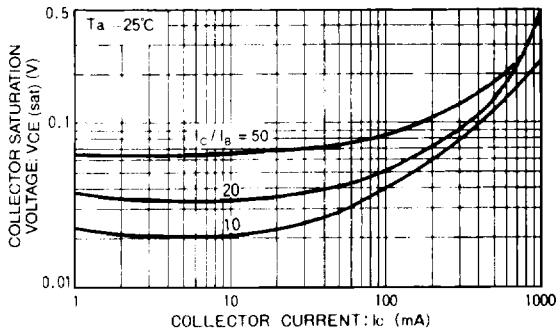


Figure 5

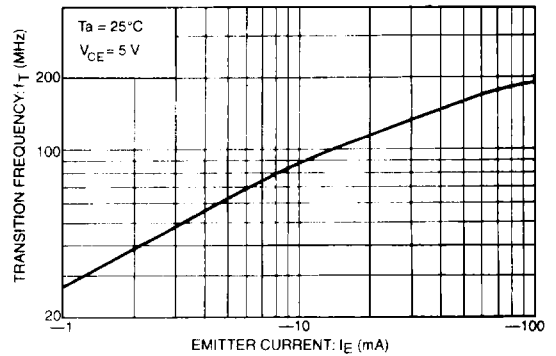


Figure 6

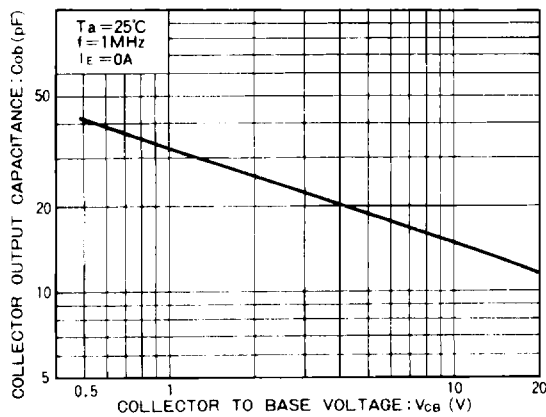


Figure 7

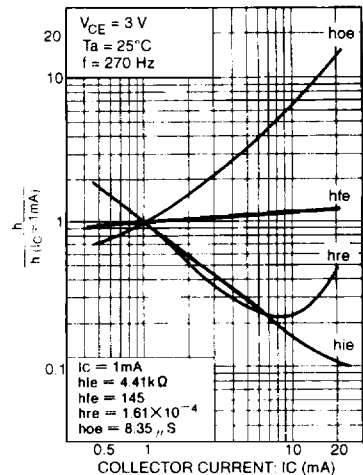


Figure 8

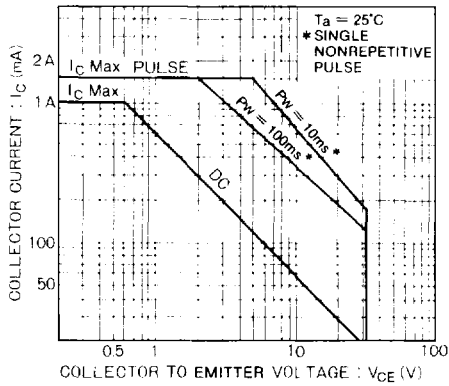


Figure 9

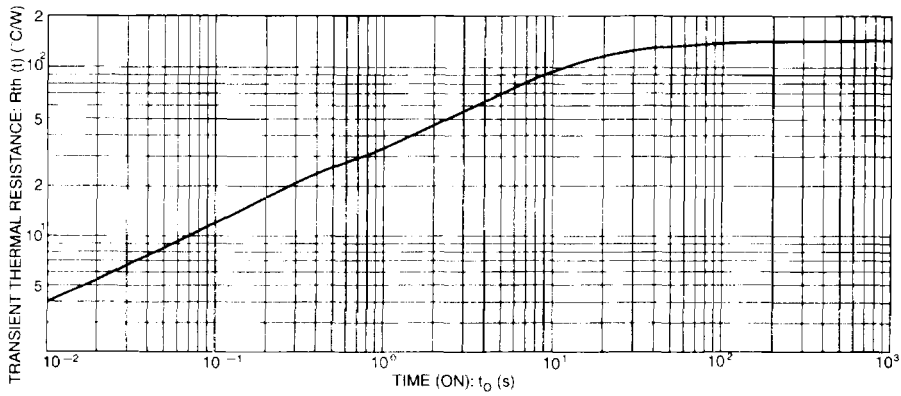


Figure 10

Ordering information

Package	Tape
Code	TL2
Basic order quantity	2 500
2SC4040	★
★ = Standard, ☆ = Semi-standard, * = Special order	