



TO-92 Plastic-Encapsulate Transistors

C2611

TRANSISTOR (NPN)

FEATURES

Power dissipation

 $P_{CM} : 0.75 \text{ W (Tamb=25°C)}$

Collector current

 $I_{CM} : 0.2 \text{ A}$

Collector-base voltage

 $V_{(BR)CBO} : 600 \text{ V}$

Operating and storage junction temperature range

 $T_J, T_{stg}: -55°C \text{ to } +150°C$ **TO—92**

1. BASE

2.COLLECTOR

3. EMITTER



1 2 3

ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	600			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB} = 600 \text{ V}, I_E = 0$			100	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 400 \text{ V}, I_B = 0$			200	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7 \text{ V}, I_C = 0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 20 \text{ V}, I_C = 20 \text{ mA}$	10		40	
	$h_{FE(2)}$	$V_{CE} = 10 \text{ V}, I_C = 0.25 \text{ mA}$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50 \text{ mA}, I_B = 10 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50 \text{ mA}, I_B = 10 \text{ mA}$			1.2	V
Transition frequency	f_T	$V_{CE} = 20 \text{ V}, I_C = 20 \text{ mA}$ $f = 1 \text{ MHz}$	8			MHz
Fall time	t_f	$I_C = 50 \text{ mA}, I_{B1} = -I_{B2} = 5 \text{ mA}$			0.3	μs
Storage time	t_s	$V_{CC} = 45 \text{ V}$			1.5	μs

CLASSIFICATION OF $h_{FE(1)}$

Rank						
Range	10-15	15-20	20-25	25-30	30-35	35-40

Typical Characteristics

C2611

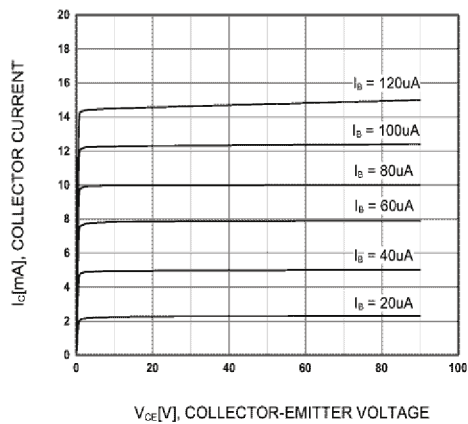


Figure 1. Static Characteristic

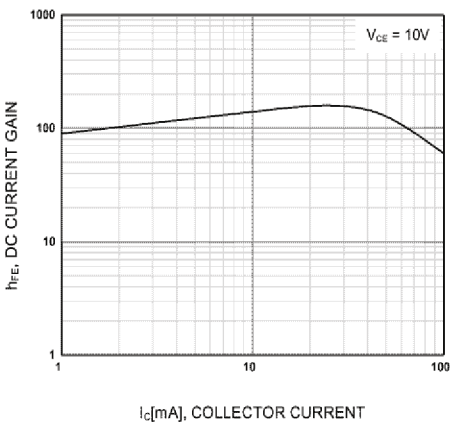


Figure 2. DC current Gain

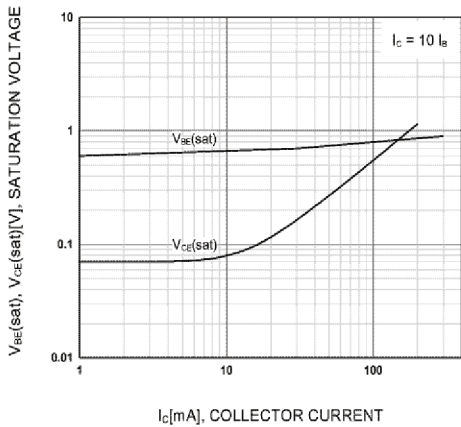


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

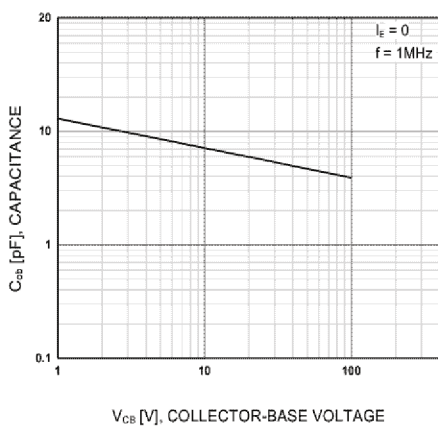
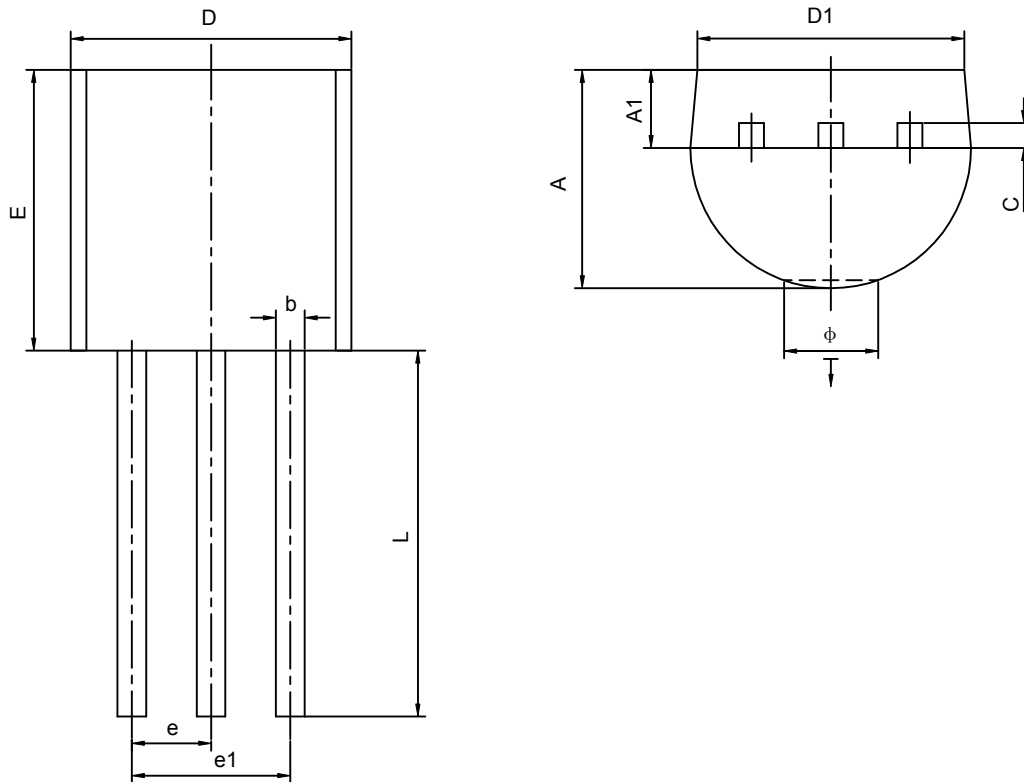


Figure 4. Collector Output Capacitance

TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
$\downarrow$	0.000	0.380	0.000	0.015