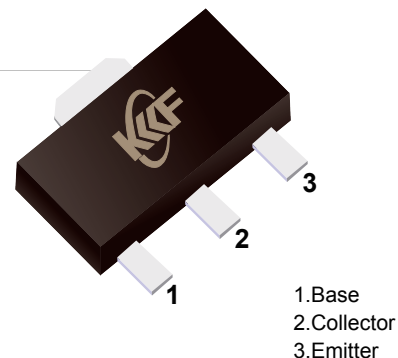


2SD1766

■ NPN Transistors

■ Features

- Collector Current Capability $I_C=2A$
- Collector Emitter Voltage $V_{CEO}=32V$
- High-speed switching.
- Complements to 2SB1188



■ Simplified outline(SOT-89)

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	32	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	2	A
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ C$

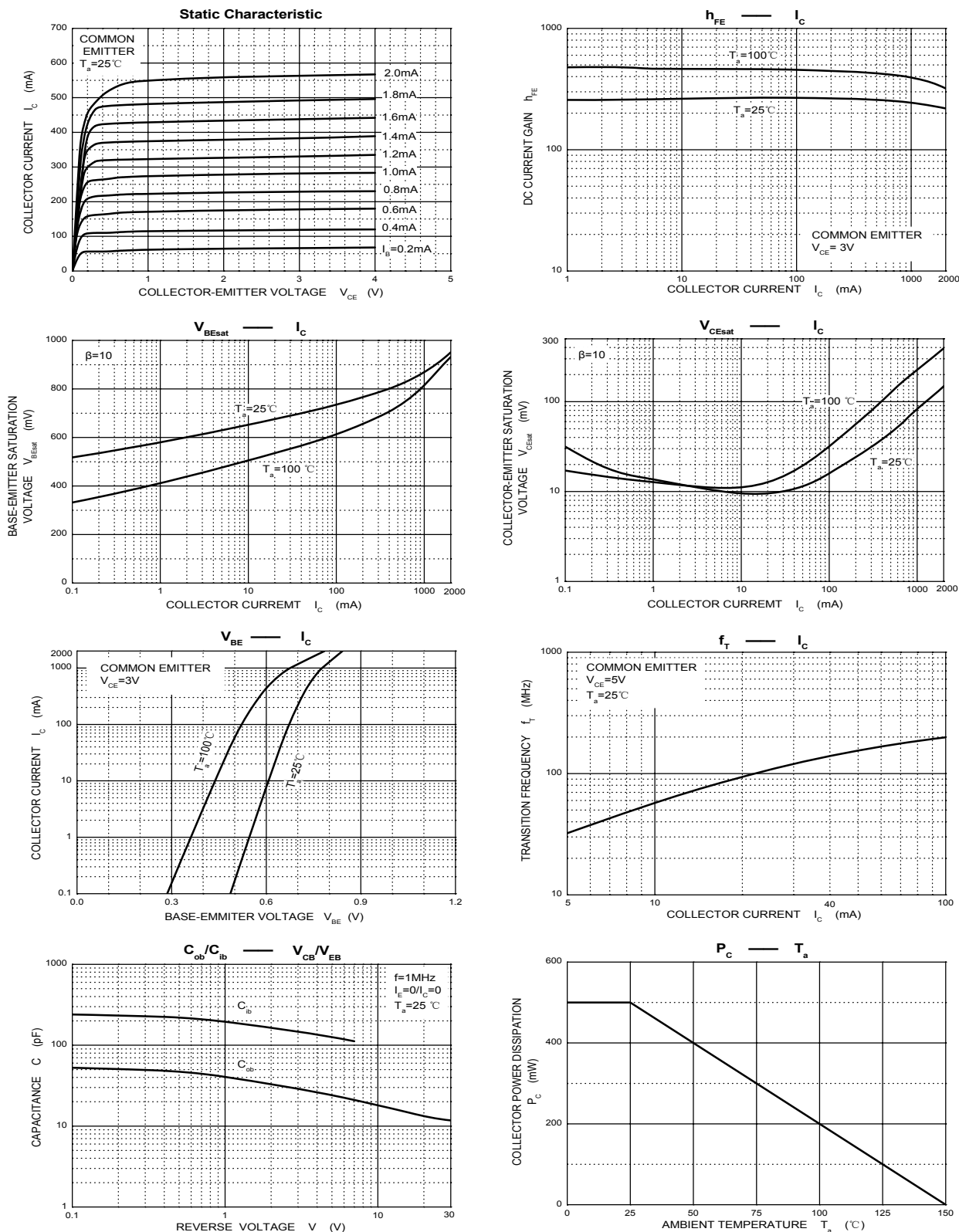
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	40			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 mA, I_B = 0$	32			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 20 V, I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4 V, I_C = 0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 A, I_B = 200 mA$			0.8	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 A, I_B = 200 mA$			1.2	
DC current gain	h_{FE}	$V_{CE} = 3 V, I_C = 500 mA$	82		390	
Collector output capacitance	C_{ob}	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		30		pF
Transition frequency	f_T	$V_{CE} = 5 V, I_E = 50 mA, f = 100 MHz$		100		MHz

■ Classification of h_{FE}

Type	2SD1776-P	2SD1776-Q	2SD1776-R
Range	82-180	120-270	180-390
Marking	DBP	DBQ	DBR

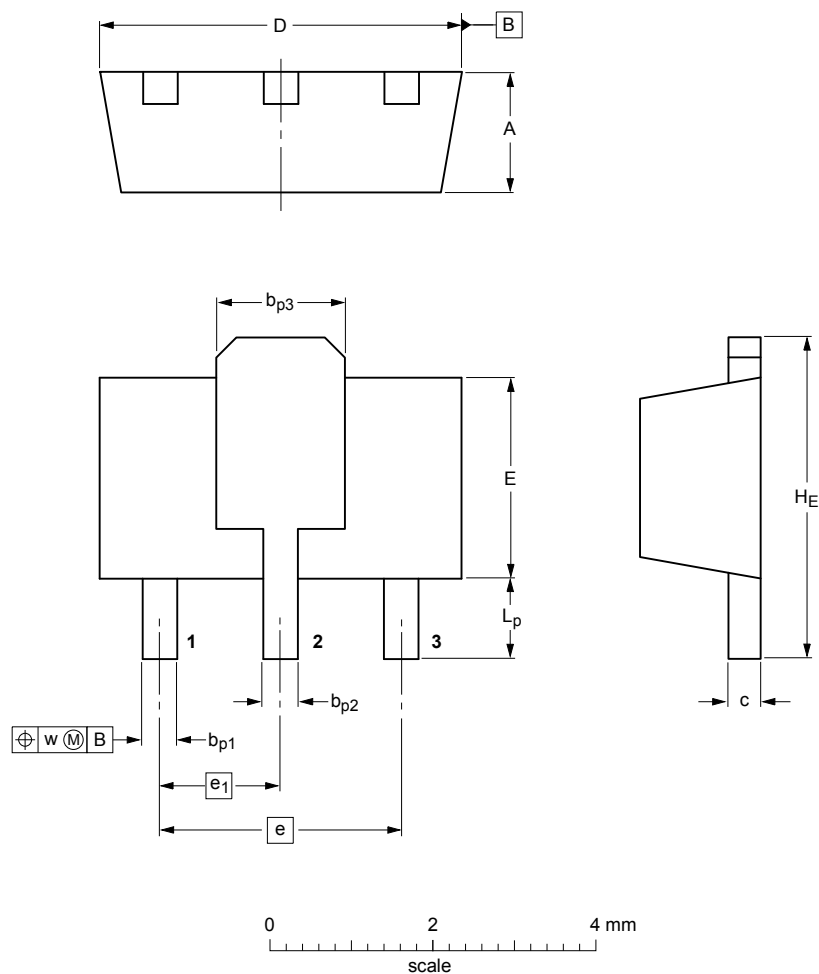


■ Typical Characteristics



2SD1766

■ SOT-89



DIMENSIONS (mm are the original dimensions)

UNIT	A	b _{p1}	b _{p2}	b _{p3}	c	D	E	e	e ₁	H _E	L _p	w
mm	1.6 1.4	0.48 0.35	0.53 0.40	1.8 1.4	0.44 0.23	4.6 4.4	2.6 2.4	3.0	1.5	4.25 3.75	1.2 0.8	0.13