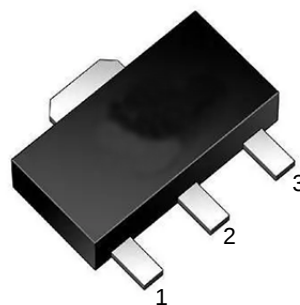


SOT-89-3L Plastic-Encapsulate Transistors

2SD1766 TRANSISTOR (NPN)

• Features

- Complimentary to 2SB1188



1. BASE
2. COLLECTOR
3. EMITTER

SOT-89-3L

• MAXIMUM RATINGS (T_C=25°C)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	40	V
Collector-Emitter Voltage	V _{CEO}	32	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	2	A
Collector Power Dissipation	P _C	500	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	250	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C

• ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =50μA, I _E =0	40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	32			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =50μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =20V, I _E =0			1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0			1	μA
DC current gain	h _{FE(1)}	V _{CE} =3V, I _C =500mA	82		390	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =2A, I _B =0.2A			0.8	V
Transition frequency	f _T	V _{CE} =5V, I _C =50mA, f=100MHz		100		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz		30		pF

• CLASSIFICATION OF h_{FE(1)}

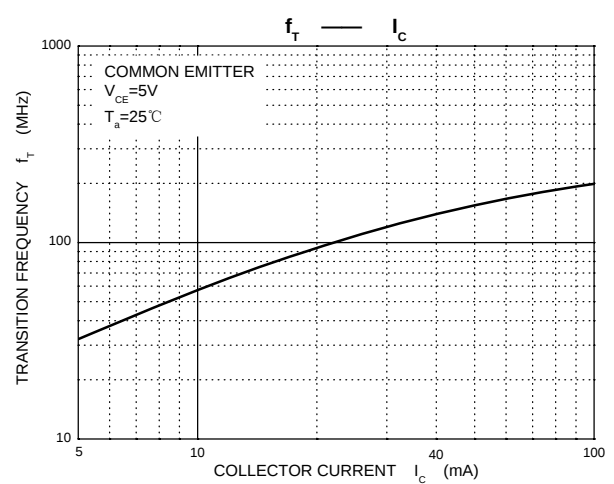
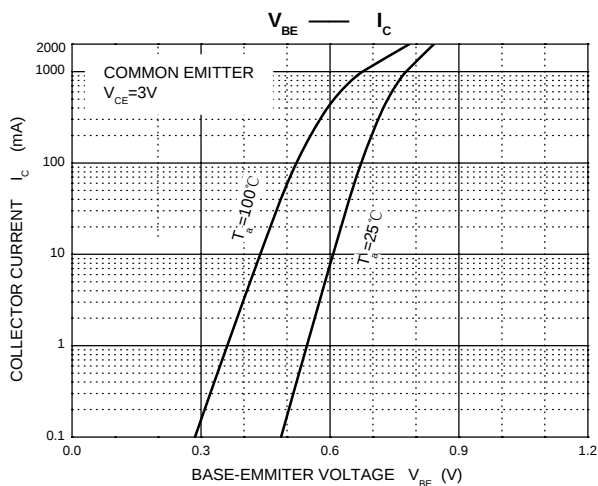
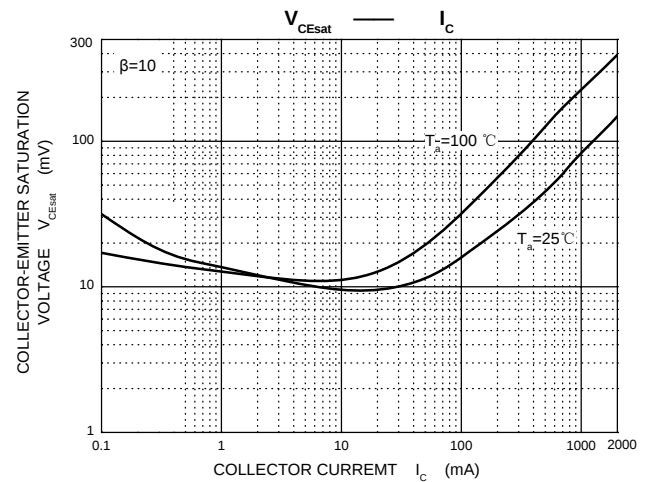
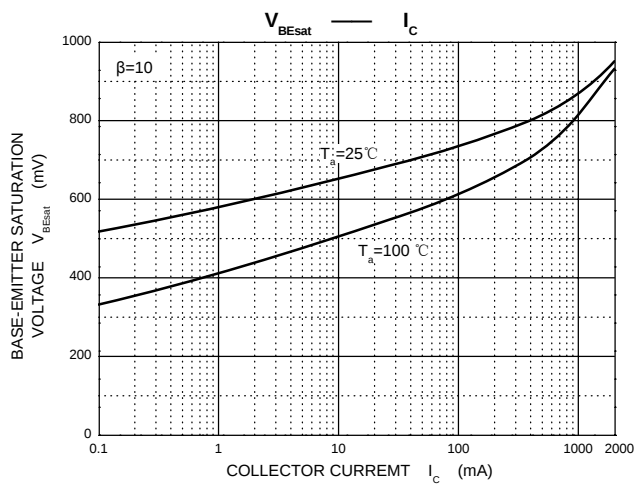
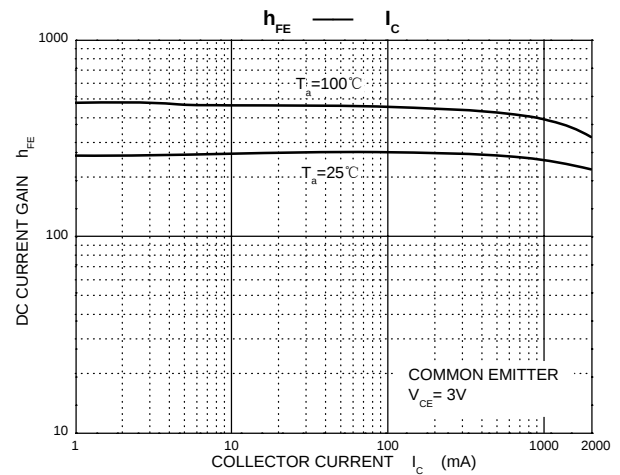
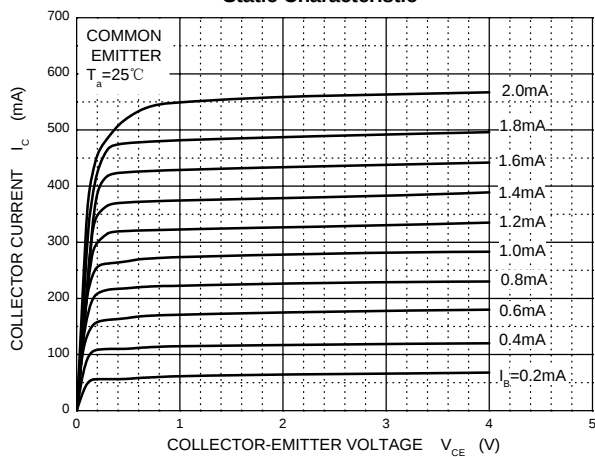
Rank	P	Q	R
Range	82-180	120-270	180-390

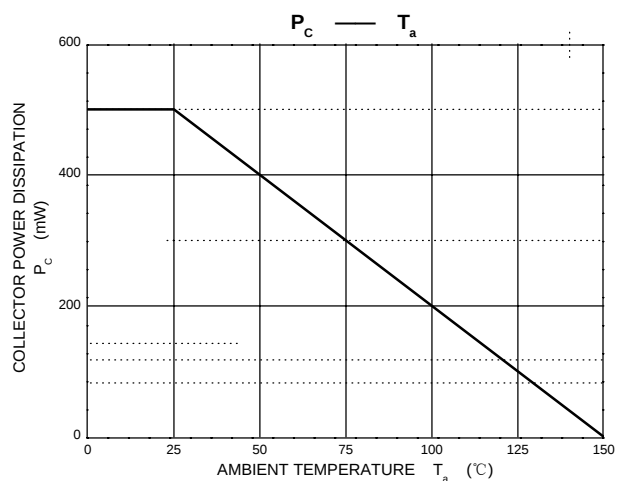
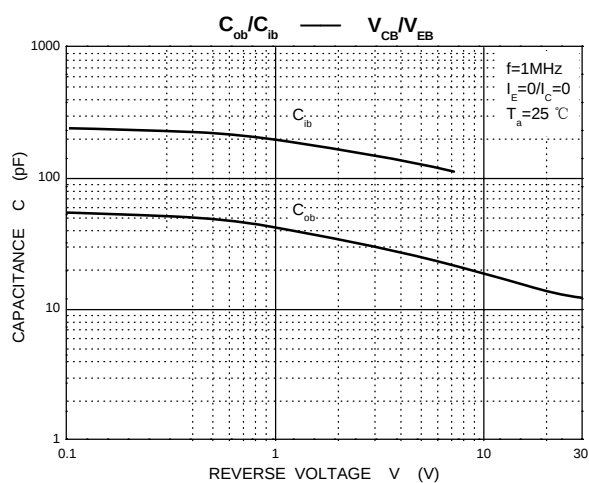
Ordering Information:

Part NO.	2SD1766
Marking	DBP/DBQ/DBR
Packing Information	REEL TAPE
Basic ordering unit (pcs)	1000

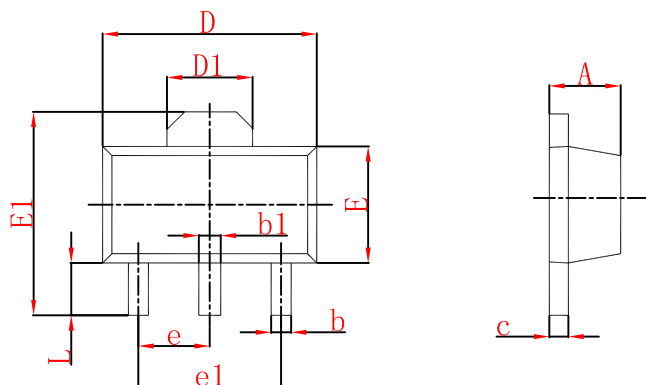
Typical Characteristics

Static Characteristic

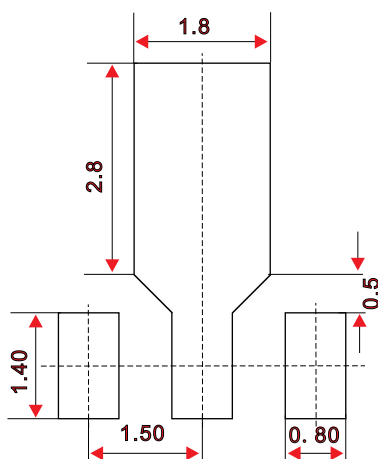




SOT-89-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.