



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

## SOT-89-3L Plastic-Encapsulate Transistors

### 2SD1766 TRANSISTOR (NPN)

#### FEATURES

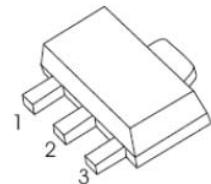
- Low  $V_{CE(sat)}$ ,  $V_{CE(sat)}=0.16V$ (Typ.)( $I_C/I_B=2A/0.2A$ )
- Complements to 2SB1188

#### MAXIMUM RATINGS ( $T_a=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	32	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_c$	Collector Current -Continuous	2	A
$P_c$	Collector dissipation	500	mW
$T_J$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55-150	°C

#### SOT-89-3L

1. BASE



2. COLLECTOR

3. Emitter

#### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ unless otherwise specified)

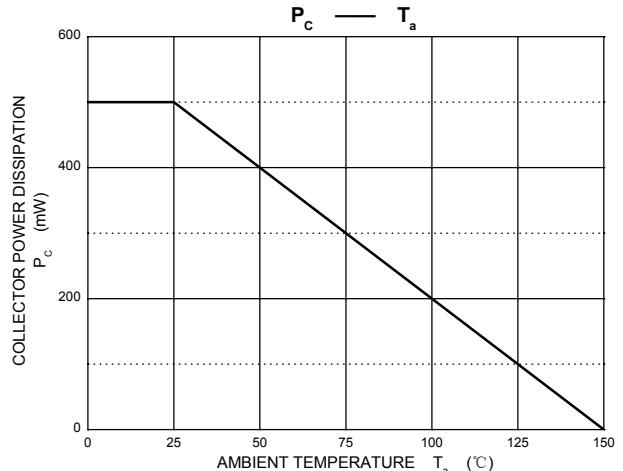
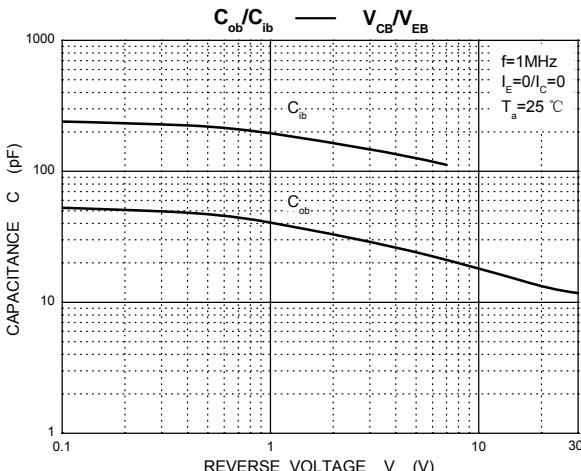
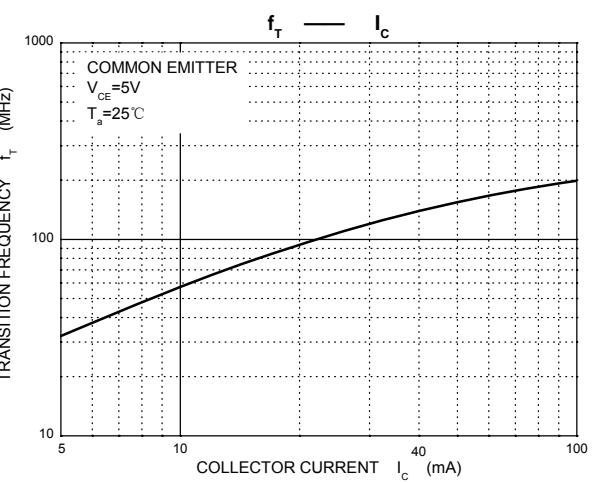
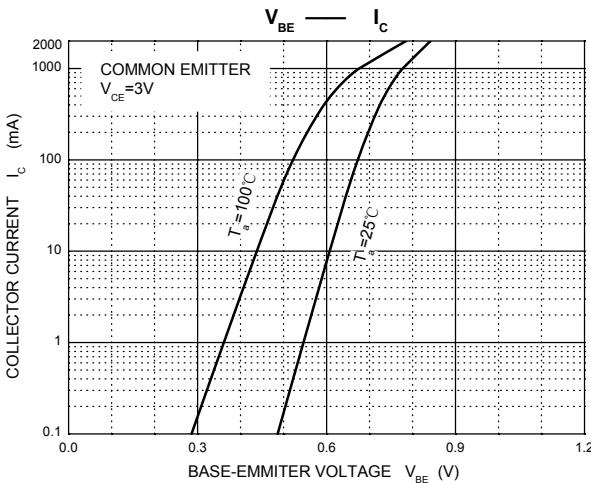
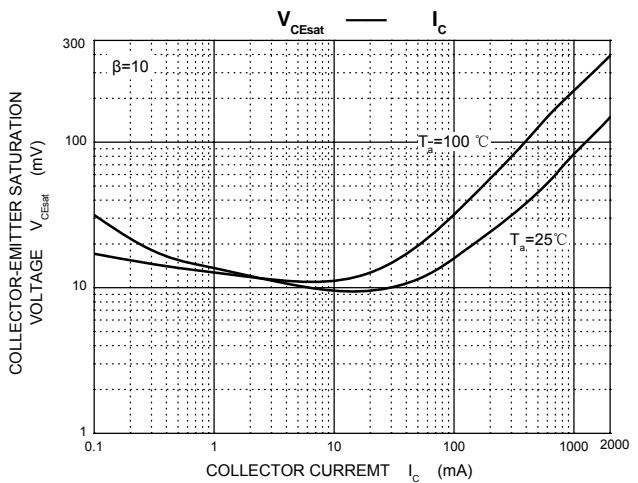
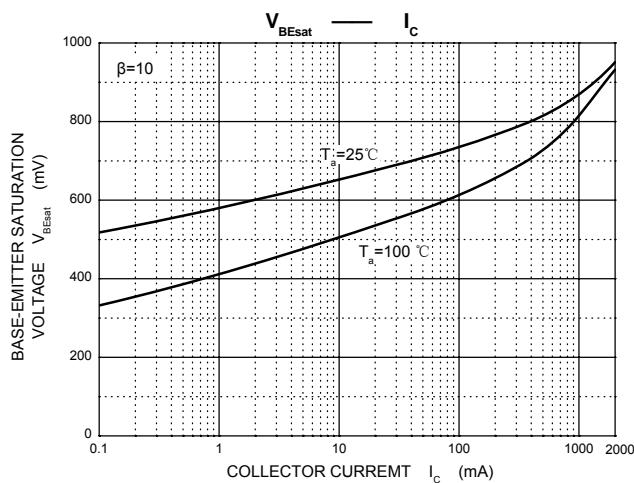
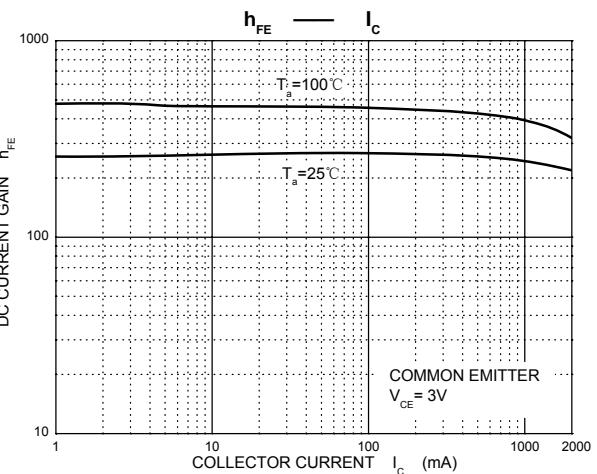
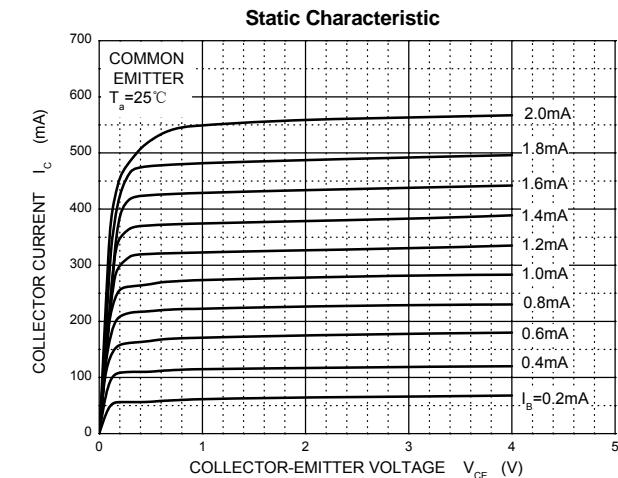
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			1	$\mu A$
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
Marking	DBP	DBQ	DBR

# Typical Characteristics

2SD1766



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