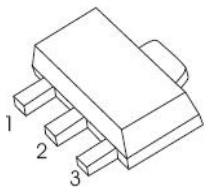
CAN CIRCLE SEMI

SOT-89-3L Plastic-Encapsulate Transistors

CST54-55-56S89

TRANSISTOR (NPN)

SOT-89-3L



1. BASE
2. COLLECTOR
3. EMITTER

FEATURES

- PNP Complements to CST51,CST52,CST53
- Low Voltage
- High Current

APPLICATIONS

- Driver Stages of Audio Amplifiers

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	CST54	45	V
		CST55	60	
		CST56	100	
V_{CEO}	Collector-Emitter Voltage	CST54	45	V
		CST55	60	
		CST56	80	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current		1	A
I_B	Base Current		0.1	A
I_{BM}	Peak base Current (tp<1ms)		0.2	A
P_C	Collector Power Dissipation		500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient		250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range		-55~+150	℃
T_{opr}	Operation Temperature Range		-25~+125	℃

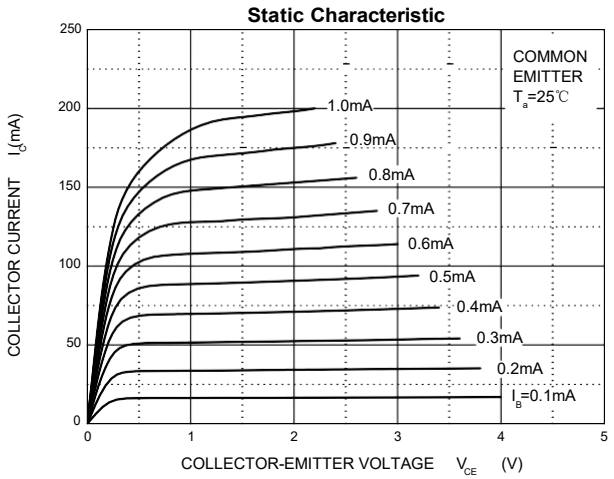
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	CST54	45			V
			CST55	60			
			CST56	100			
Collector-emitter breakdown voltage	$V_{(BR)CEO*}$	I_C=10mA,I_B=0	CST54	45			V
			CST55	60			
			CST56	80			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0		5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0				0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0				0.1	μA
DC current gain	$h_{FE(1)*}$	V_{CE}=2V, I_C=5mA		40			
	$h_{FE(2)*}$	V_{CE}=2V, I_C=150mA		63		250	
	$h_{FE(3)*}$	V_{CE}=2V, I_C=0.5A		25			
Collector-emitter saturation voltage	$V_{CE(sat)*}$	I_C=0.5A,I_B=50mA				0.5	V
Base -emitter voltage	V_{BE*}	V_{CE}=2V, I_C=0.5A				1	V
Transition frequency	f_T	V_{CE}=5V,I_C=10mA, f=100MHz			130		MHz

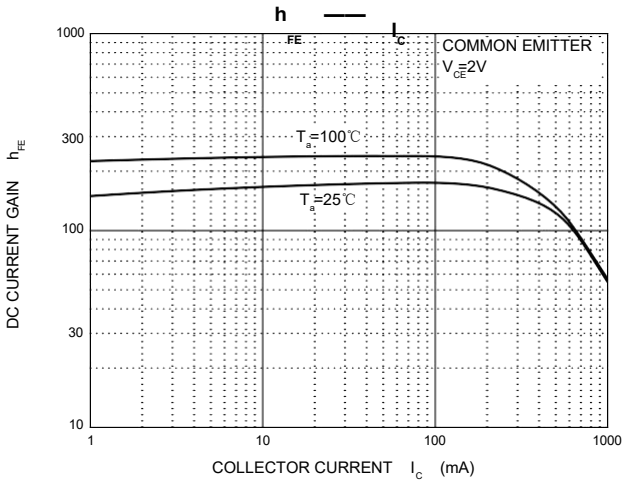
***** Pulse Test

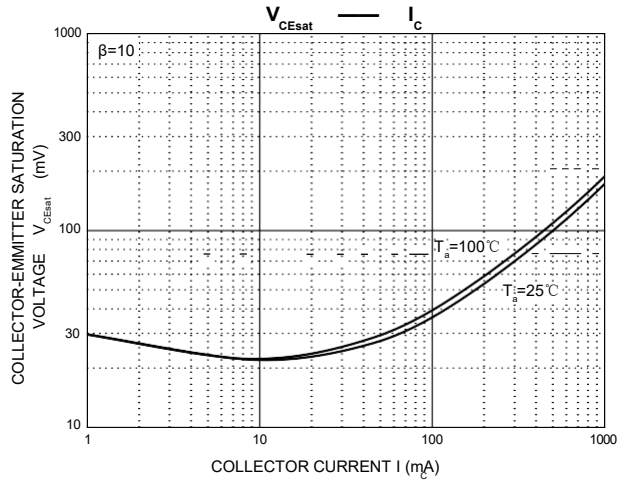
CLASSIFICATION OF $h_{FE(2)}$

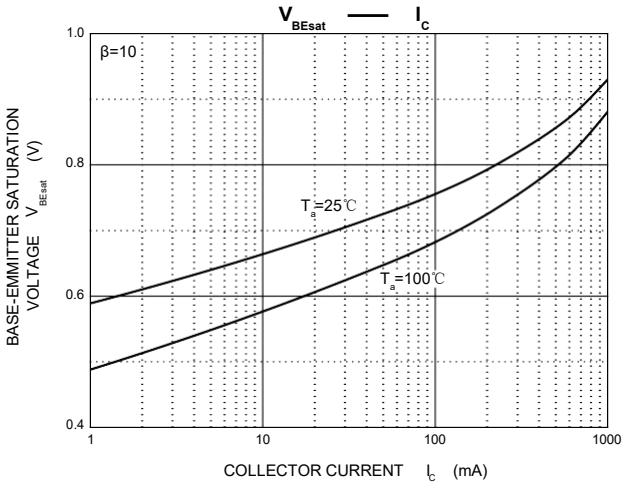
RANK	**CST54** **CST55** **CST56**	**CST54-10** **CST55-10** **CST56-10**	**CST54-16** **CST55-16** **CST56-16**
RANGE	63 – 250	63 – 160	100 – 250

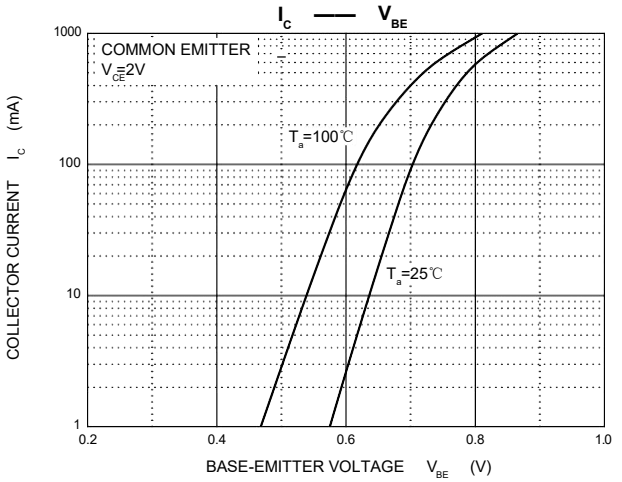
Typical Characteristics

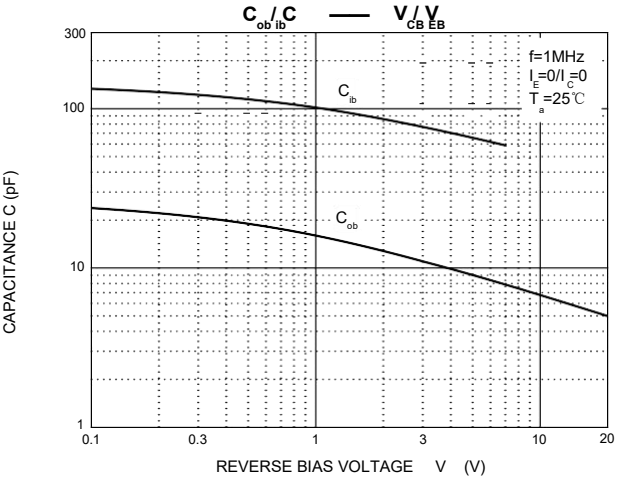


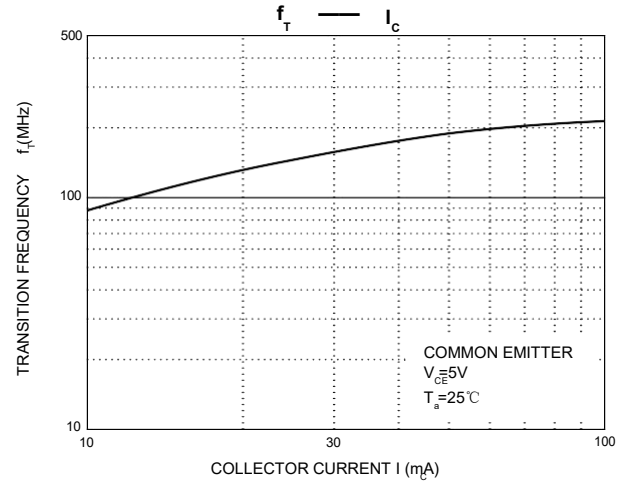


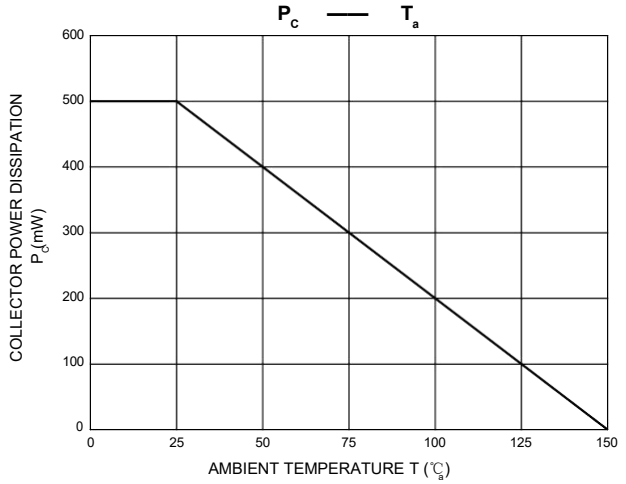




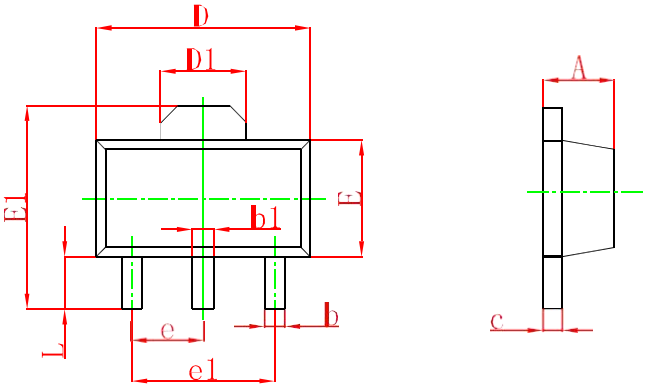






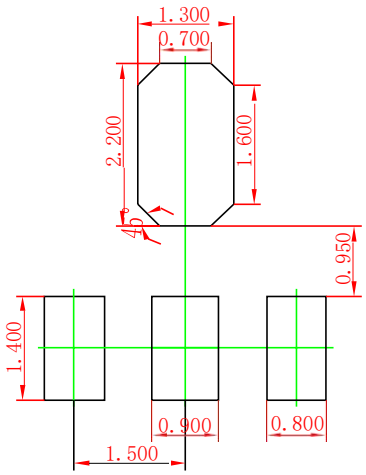


SOT-89-3L Package Outline Dimensions



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

SOT-89-3L Suggested Pad Layout



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

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