

/ Descriptions

TO-92 NPN Silicon NPN transistor in a TO-92 Plastic Package.

/ Features

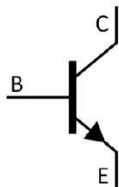
$G_{pe}=33\text{dB}$ () ($f=45\text{MHz}$), h_{FE}

High gain: $G_{pe}=33\text{dB(Typ)}$ ($f=45\text{MHz}$), good linearity of h_{FE} .

/ Applications

TV final picture IF amplifier applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.

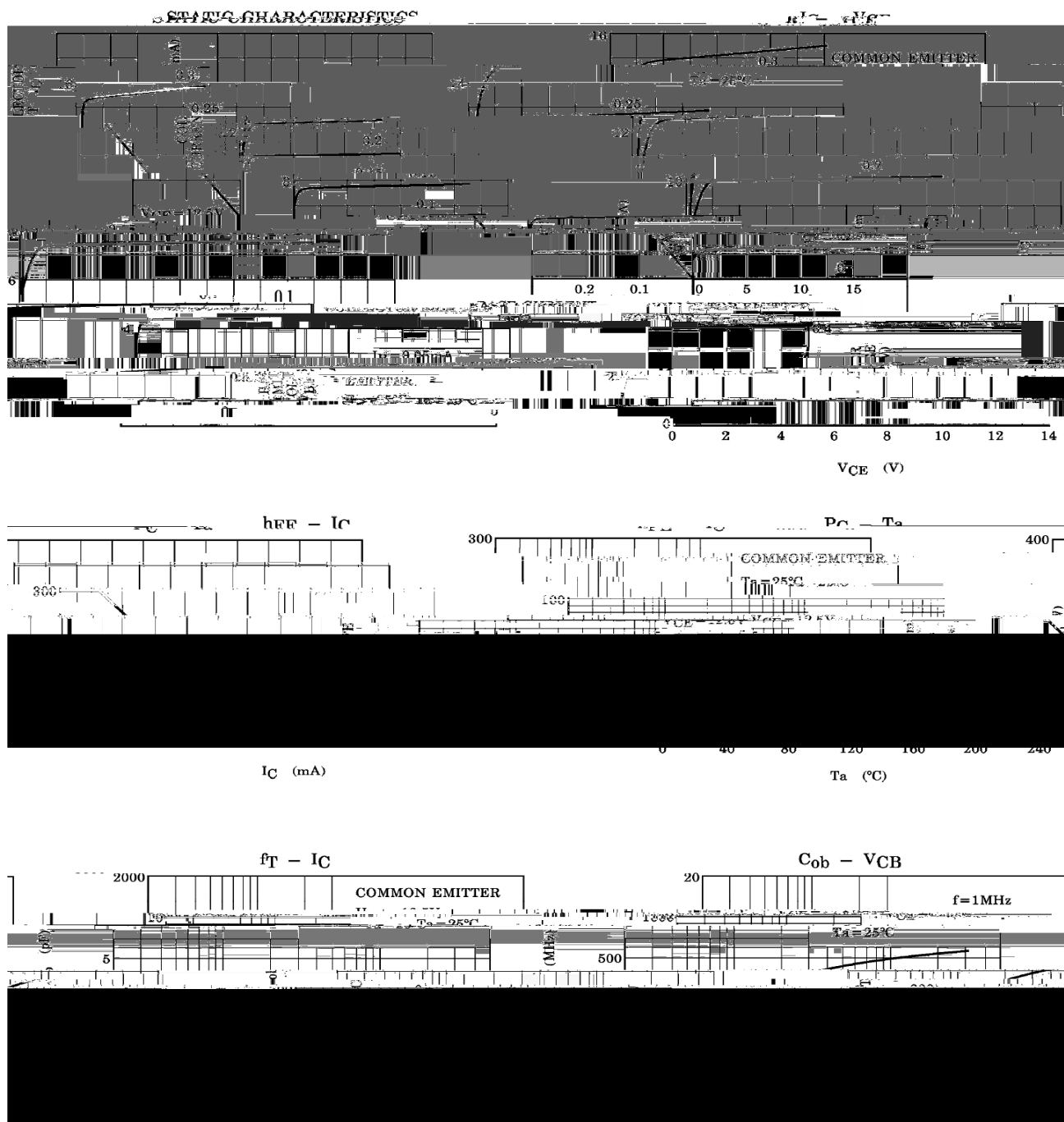
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	45	V
Emitter to Base Voltage	V_{EBO}	4.0	V
Collector Current - Continuous	I_C	50	mA
Emitter Current - Continuous	I_E	-50	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 150	

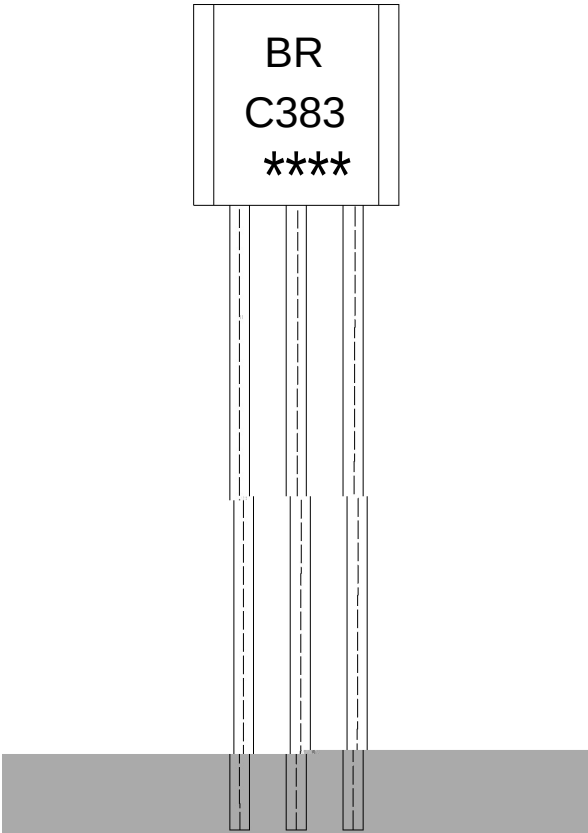
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10mA$ $I_B=0$	45			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=50V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=3.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=12.5V$ $I_C=12.5mA$	20		100	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=15mA$ $I_B=1.5mA$			0.2	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=15mA$ $I_B=1.5mA$			1.5	V
Transition Frequency	f_T	$V_{CE}=12.5V$ $I_C=12.5mA$	300			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1MHz$ $I_E=0$	0.8		2.0	pF
Power Gain	G_{pe}	$V_{CC}=12.5V$ $f=45MHz$ $I_E=-12.5mA$	29		36	dB
Collector to Base Time Constant	$C_C.rbb'$	$V_{CB}=10V$ $f=30MHz$ $I_E=-1.0mA$			25	pS

/ Electrical Characteristic Curve



/ Marking Instructions



BR:
C383
**** ↓ ↓

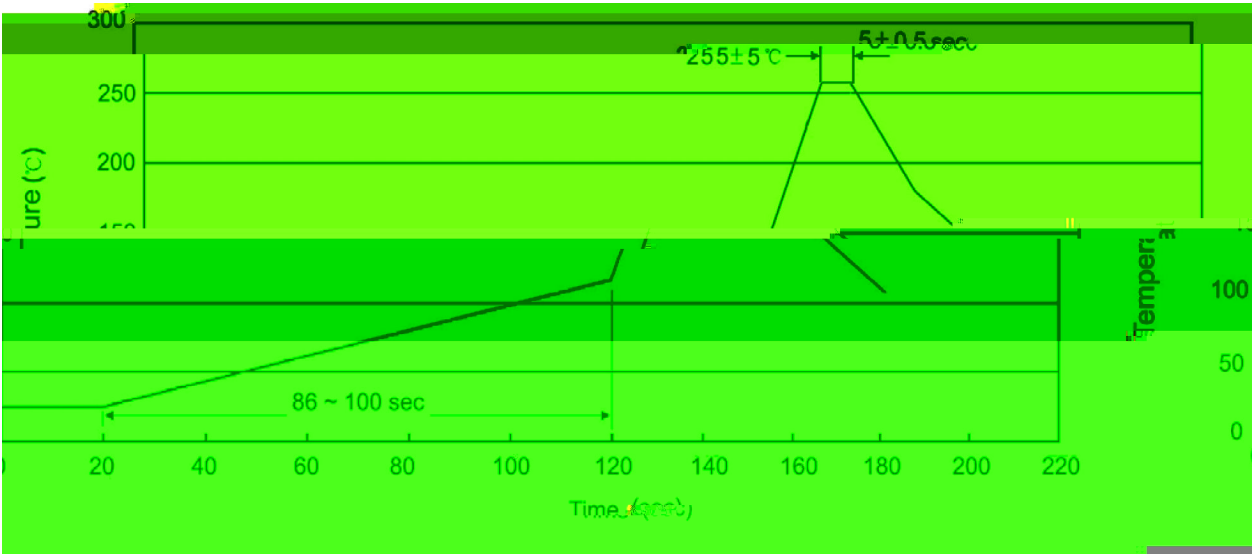
Note:

BR: Company Code.

C383: Product Type.

****: Lot No. Code,code change with Lot No.

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- 1

25 150

60 90sec;
- 2

255±5

5±0.5sec;
- 3

2 10

/sec.
- 1.Preheating:25~150

, Time:60~90sec.
- 2.Peak Temp.:255±5

, Duration:5±0.5sec.
3. Cooling Speed: 2~10

/sec.

/ Resistance to Soldering Heat Test Conditions

270±5

10±1 sec.

Temp:270±5

Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375