

# N0202R

R07DS0720EJ0100

Rev.1.00

PNP SILICON EPITAXIAL TRANSISTOR

Mar 30, 2012

## FEATURES

- Complements to N0202S.
- $V_{CE0} = -20\text{ V}$
- $I_{C(DC)} = -2.0\text{ A}$
- Miniature package SOT-23F (2SB1114: Package variation of 3pPoMM)

## PRODUCT LINEUP

Part Number	Packing	Package Name	Package Code	Mass [TYP.]
N0202R-T1-AT	Tape 3000p/reel	SOT-23F	PVSF0003ZA-A	0.0126g

## ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CBO}$	-20	V
Collector to Emitter Voltage	$V_{CEO}$	-20	V
Emitter to Base Voltage	$V_{EBO}$	-6.0	V
Collector Current (DC)	$I_{C(DC)}$	-2.0	A
Collector Current (pulse) *1	$I_{C(pulse)}$	-3.0	A
Total Power Dissipation	$P_{T1}$	0.2	W
Total Power Dissipation *2	$P_{T2}$	1.0	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

 Note \*1.  $PW \leq 10\text{ ms}$ , Duty Cycle  $\leq 50\%$ 

 \*2. FR-4 board size  $2500\text{ mm}^2 \times 1.6\text{ mm}$ ,  $t \leq 5\text{ sec}$ 

## ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

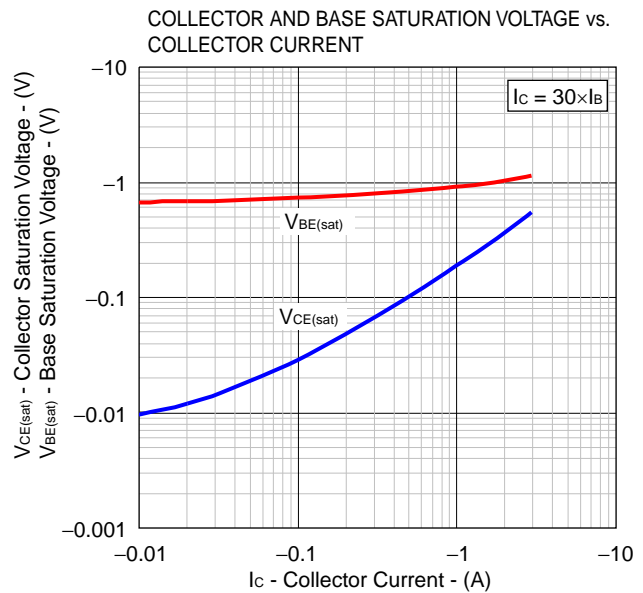
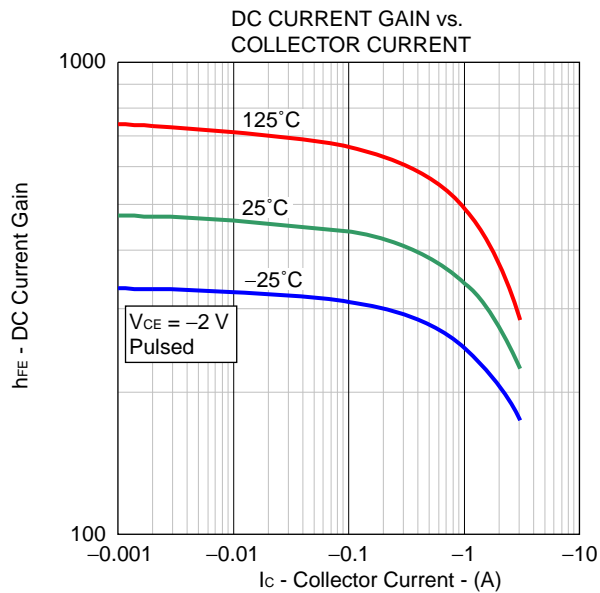
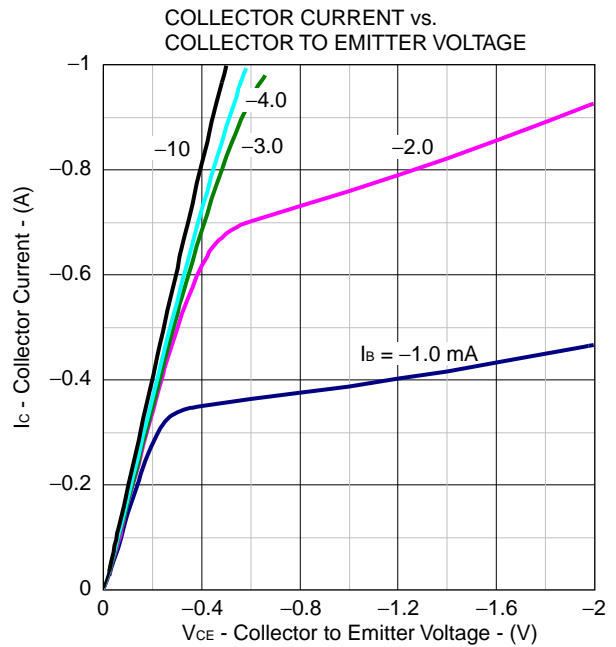
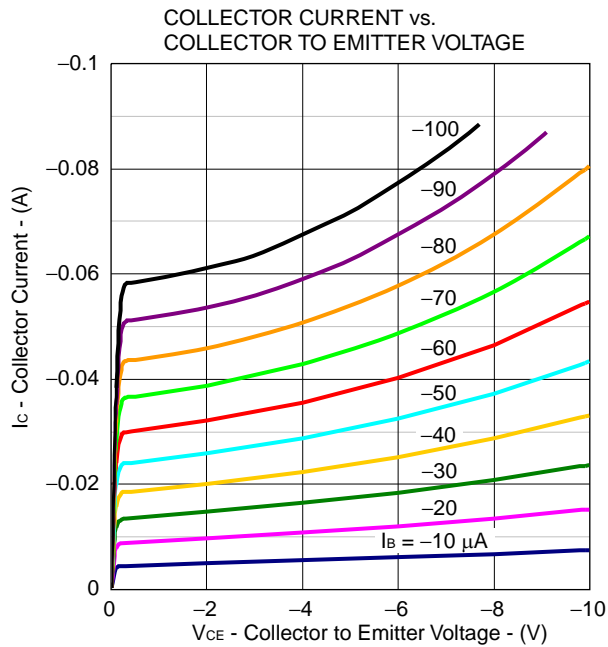
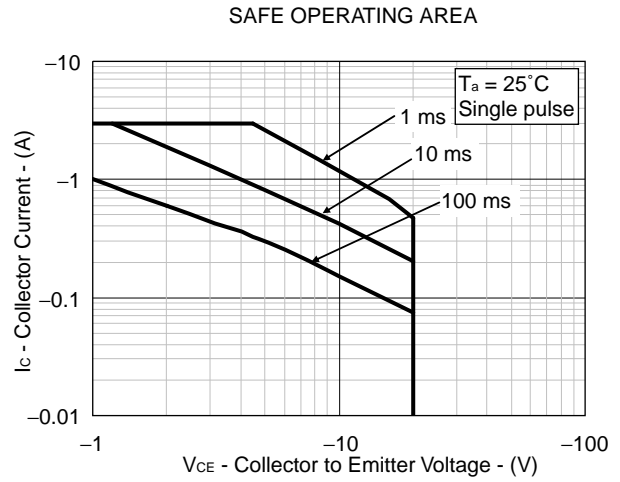
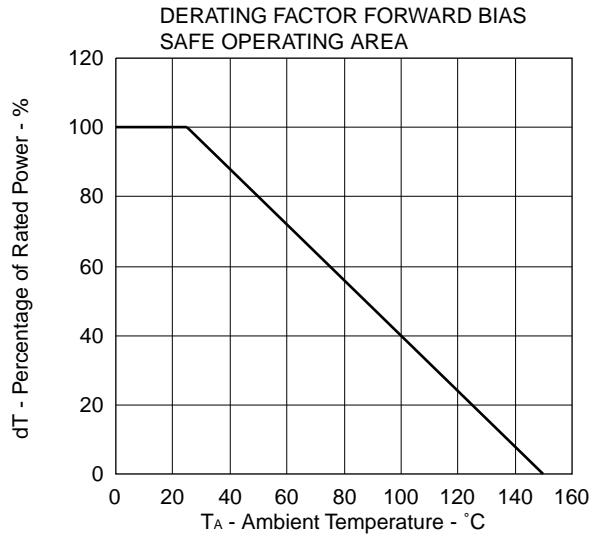
Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -16\text{ V}$ , $I_E = 0$			-100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -6.0\text{ V}$ , $I_C = 0$			-100	nA
DC Current Gain	$h_{FE1}^{*1}$	$V_{CE} = -2.0\text{ V}$ , $I_C = -100\text{ mA}$	135	350	600	
DC Current Gain	$h_{FE2}^{*1}$	$V_{CE} = -2.0\text{ V}$ , $I_C = -2.0\text{ A}$	40			
Collector Saturation Voltage	$V_{CE(sat)}^{*1}$	$I_C = -1.5\text{ A}$ , $I_B = -50\text{ mA}$		-0.3	-0.5	V
Base Saturation Voltage	$V_{BE(sat)}^{*1}$	$I_C = -1.5\text{ A}$ , $I_B = -50\text{ mA}$		-1.05	-1.2	V
Base to Emitter Voltage	$V_{BE}^{*1}$	$V_{CE} = -6\text{ V}$ , $I_C = -100\text{ mA}$	-650	-680	-750	mV
Gain Bandwidth Product	$f_T$	$V_{CE} = -6.0\text{ V}$ , $I_E = 10\text{ mA}$		90		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10.0\text{ V}$ , $I_E = 0$ , $f = 1.0\text{ MHz}$		55		pF

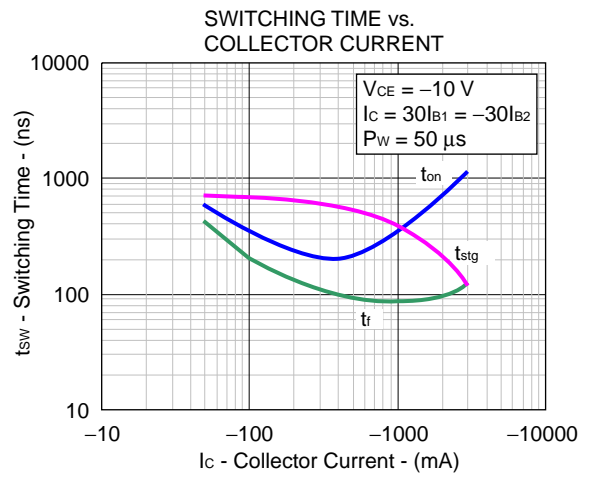
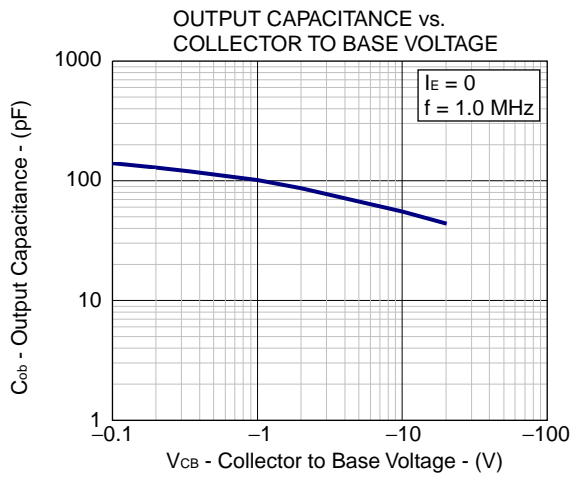
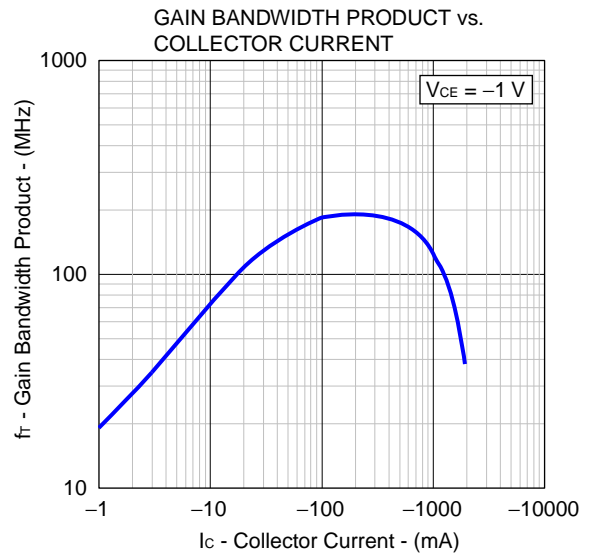
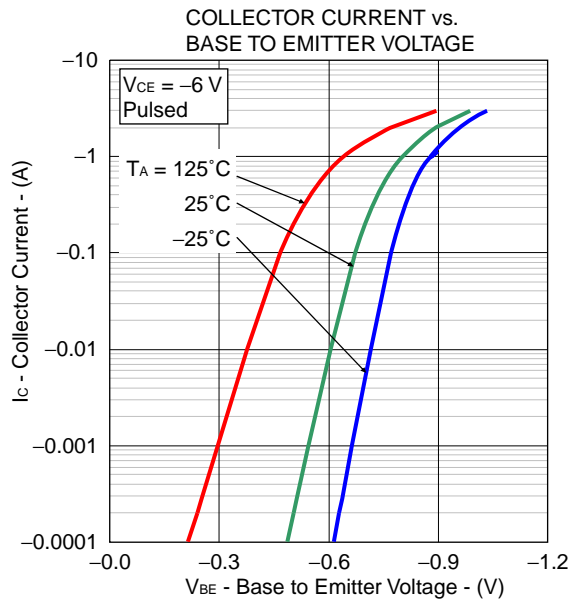
Note \*1. Pulsed

## $h_{FE}$ Classification

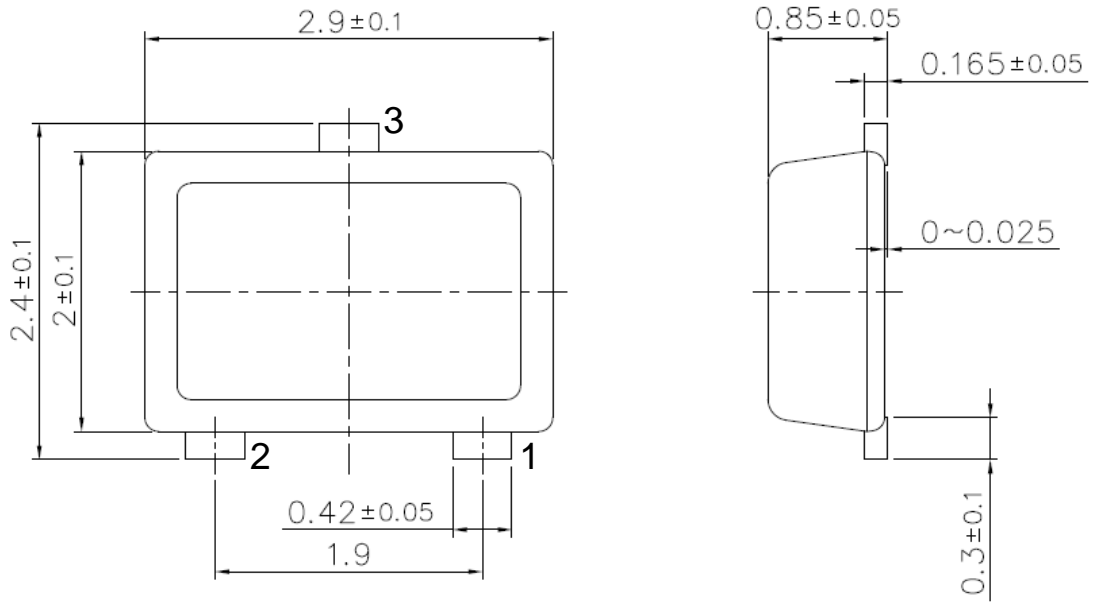
Marking	ZM	ZL	ZK
$h_{FE1}$	135 to 270	200 to 400	300 to 600

TYPICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )





PACKAGE DRAWING (Unit: mm)



- 1: Emitter
- 2: Base
- 3: Collector

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