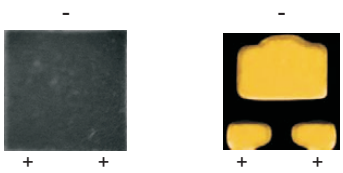
General Purpose Transistor

TPA2029NND03-HF (PNP)

RoHS Device
Halogen Free



Features

-PNP Epitaxial Silicon Transistor.

-Excellent hFE linearity.

-For portable equipment(i.e. Mobile phone,MP3,.
(i.e. Mobile phone, MP3, Note book PC, etc.)

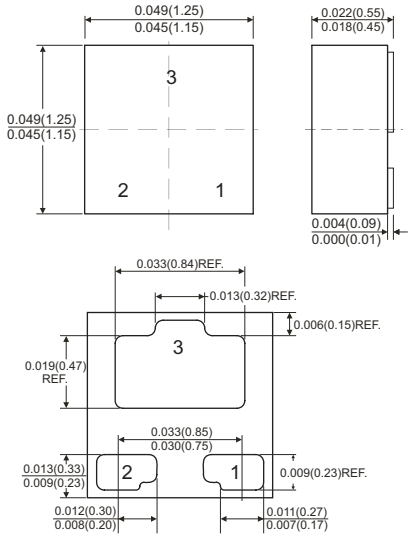
Mechanical data

-Case: WBFBP-03B Plastic-Encapsulate Diodes

-Mounting position: Any

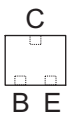
-Weight: 0.003 grams.

WBFBP-03B



Dimensions in inches and (millimeter)

Circuit Diagram



Maximum Ratings (at T_A=25°C unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base voltage	V_{CBO}			-60	V
Collector-Emitter voltage	V_{CEO}			-50	V
Emitter-Base voltage	V_{EBO}			-6	V
Collector Current-Continuous	I_C			-150	mA
Collector Power Dissipatioin	P_C			150	mW
Storage temperature and junction temperature	T_{STG} , T_J	-55		+150	°C

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-Base breakdown voltage	$V_{(BR)CBO}$	I_C = -50μA , I_E=0	-60			V
Collector-Emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA , I_B=0	-50			V
Emitter-Base breakdown voltage	$V_{(BR)EBO}$	I_E = -50μA , I_C=0	-6			V
Collector cut-off current	I_{CBO}	V_{CB} = -60V , I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = -6V , I_C=0			-0.1	μA
DC current gain	h_{FE}	V_{CE} = -6V , I_C = -1mA	120		560	
Collector-Emitter saturation voltage	V_{CE}(sat)	I_C = -50mA , I_B = -5mA			-0.5	V
Transition frequency	f_T	V_{CE} = -12V , I_C = -2mA f=30MHz		140		MHz
Collector output capacitance	C_{ob}	V_{CB} = -12V , I_E=0 , f=1MHz		4	5	pF

Classification on h_{FE}

Rank	Q	R	S
Range	120-270	180-390	270-560

RATING AND CHARACTERISTIC CURVES (TPA2029NND03-HF)

Fig.1 - Static Characteristic

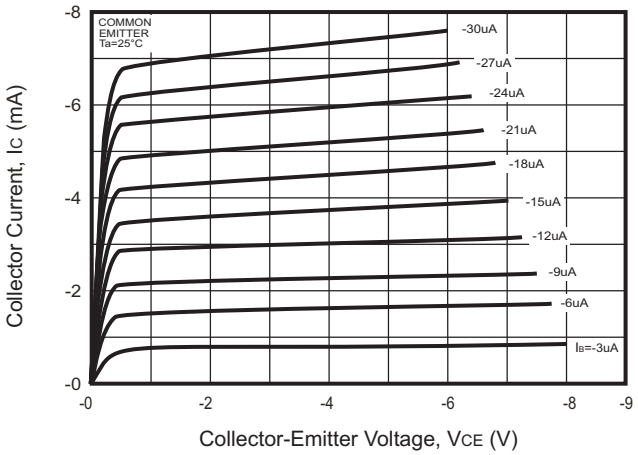


Fig.2 - h_{FE} — I_C

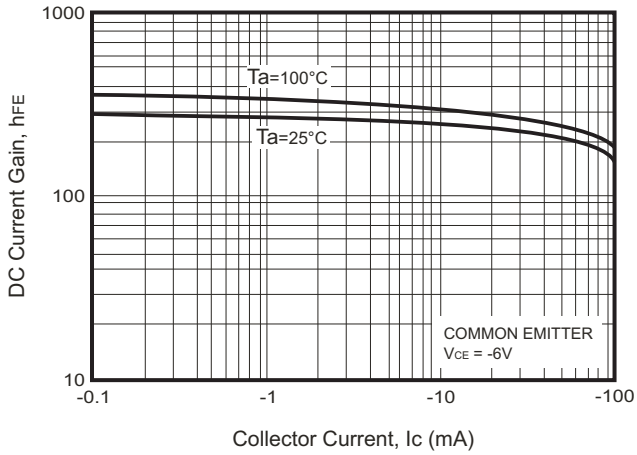


Fig.3 - V_{BEsat} — I_C

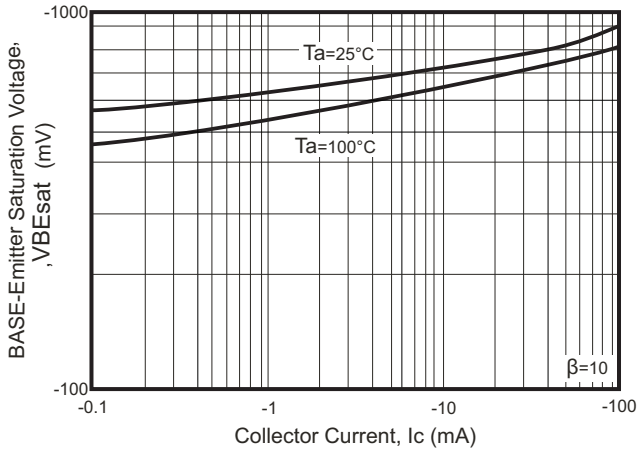


Fig.4 - V_{CEsat} — I_C

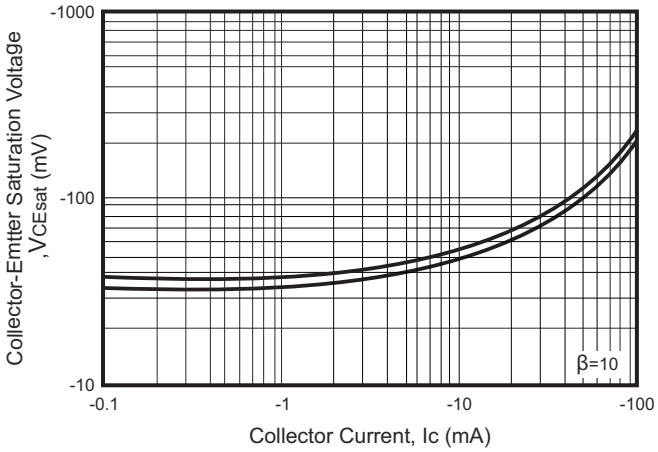


Fig.5 - I_C — V_{BE}

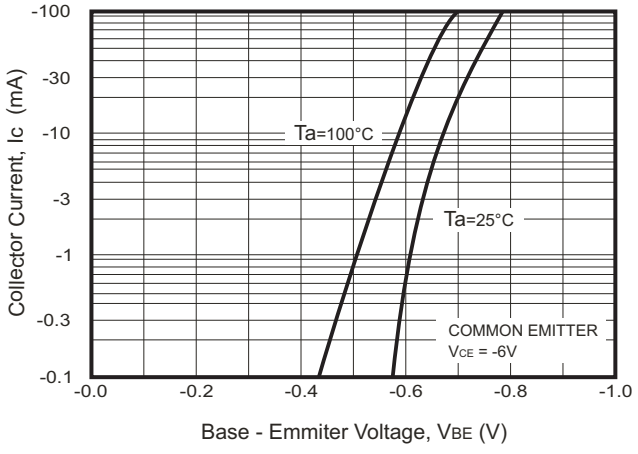
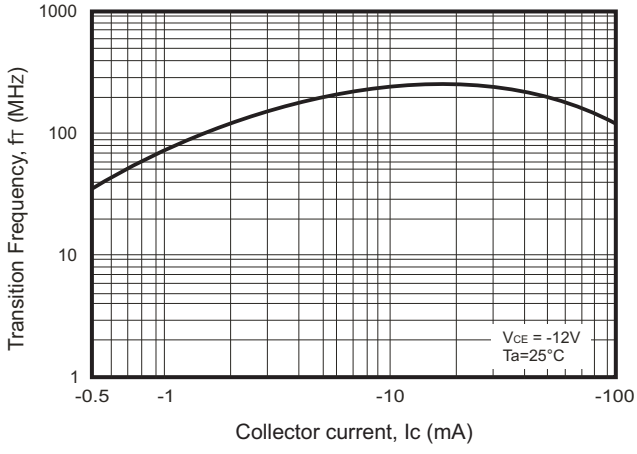


Fig.6 - f_T — I_C



RATING AND CHARACTERISTIC CURVES (TPA2029NND03-HF)

Fig.7 - C_{ob}/C_{ib} — V_{CB}/V_{EB}

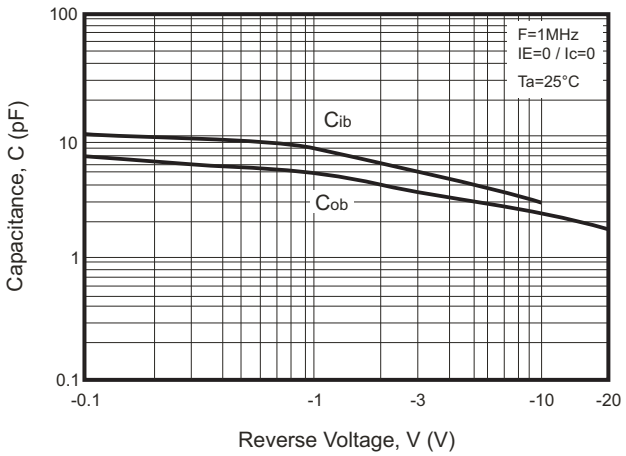
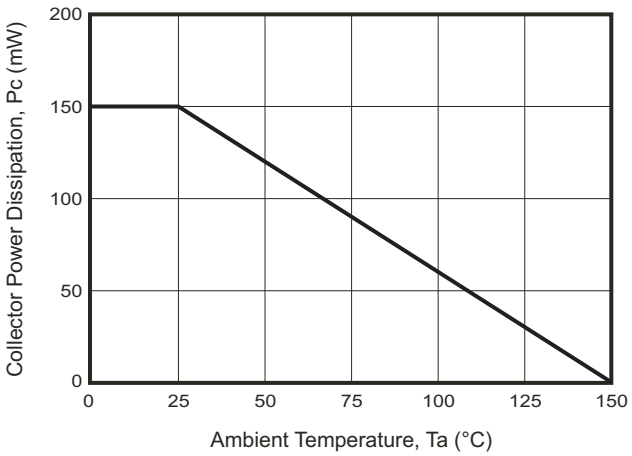
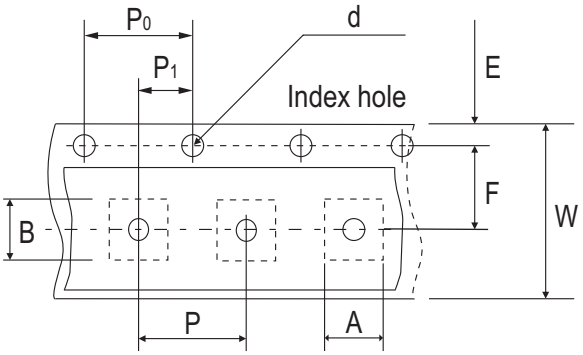
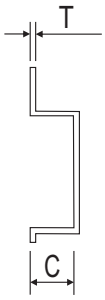


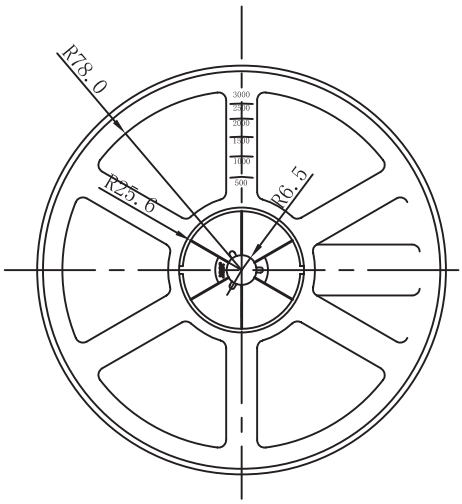
Fig.8 - P_C — Ta

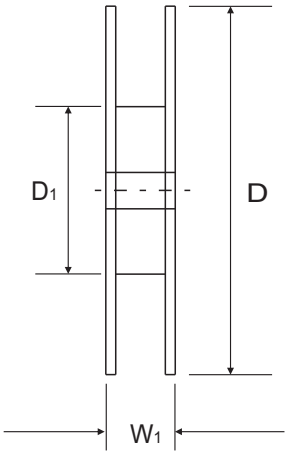


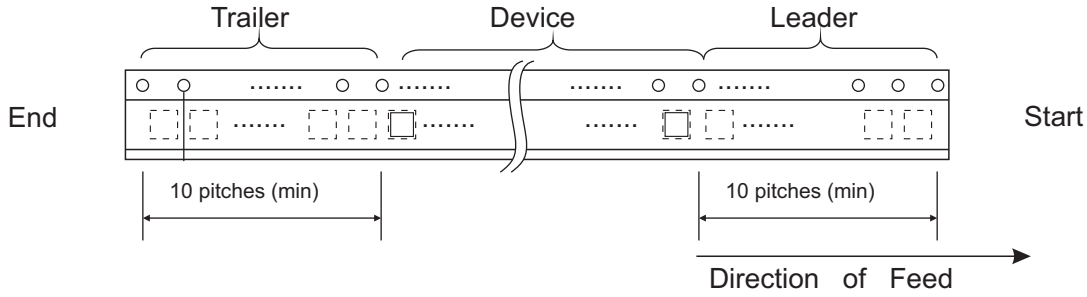
Reel Taping Specification









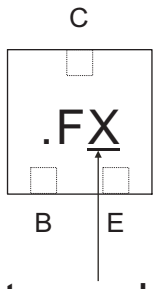


	SYMBOL	A	B	C	d	D	D1	T
WBFBP -03B	(mm)	1.38 ± 0.05	1.38 ± 0.05	0.62 ± 0.05	1.50 + 0.10	178 (MAX)	54.40 (MAX)	0.20 ± 0.02
	(inch)	0.054 ± 0.002	0.054 ± 0.002	0.024 ± 0.002	0.059 + 0.004	7.008 (MAX)	2.142 (MAX)	0.008 ± 0.001

	SYMBOL	E	F	P	P0	P1	W	W1
WBFBP -03B	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.20 / - 0.10	9.50 (MAX)
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.008 / - 0.004	0.374 (MAX)

Marking Code

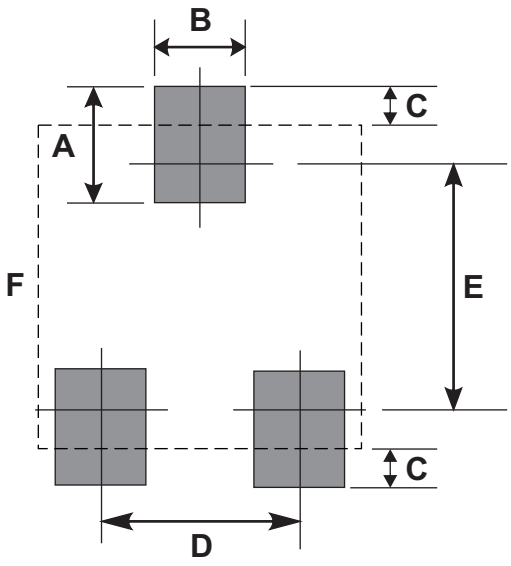
Part Number	Rank	Marking Code
TPA2029NND03Q-HF	Q	FQ
TPA2029NND03R-HF	R	FR
TPA2029NND03S-HF	S	FS



X = Product type marking code

Suggested PAD Layout

SIZE	WBFBP-03B	
	(mm)	(inch)
A	0.48	0.019
B	0.32	0.013
C	0.15	0.006
D	0.80	0.031
E	0.85	0.033
F	1.20*1.20 PKG.	0.047*0.047 PKG.



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
WBFBP-03B	5,000	7