

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

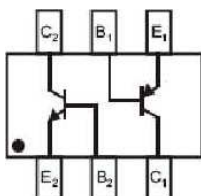
SOT-363

FEATURES

- DUAL TRANSISTOR (NPN+PNP)
- Epitaxial Planar Die Construction
- Ideal for low Power Amplification and Switching
- One 5551(NPN), one 5401(PNP)

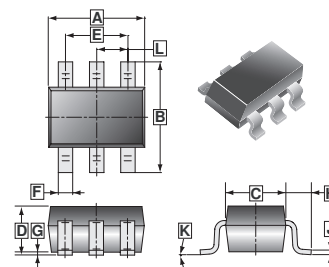
MARKING : KNM

EQUIVALENT CIRCUIT



E1, B1, C1 = PNP 5401

E2, B2, C2 = NPN 5551



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.00	2.20	G	0.100	REF.
B	2.15	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.15
D	0.90	1.10	K	8°	
E	1.20	1.40	L	0.650	TYP.
F	0.15	0.35			

ABSOLUTE MAXIMUM RATINGS at Ta = 25°C

PARAMETER	SYMBOL	NPN RATINGS	PNP RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	180	-160	V
Collector-Emitter Voltage	V_{CEO}	160	-150	V
Emitter-Base Voltage	V_{EBO}	6	-5	V
Collector Current -Continuous	I_C	0.2	-0.2	A
Collector Power Dissipation	P_C	0.2	0.2	W
Thermal Resistance. Junction to Ambient Air	$R_{\theta JA}$	625		°C/W
Junction & Storage temperature	T_J, T_{STG}	150, -55~150		°C

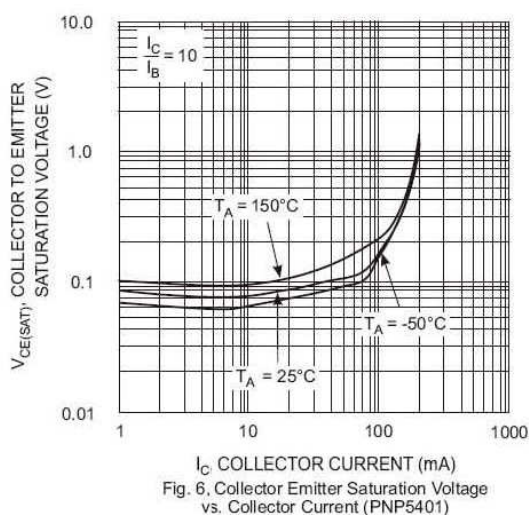
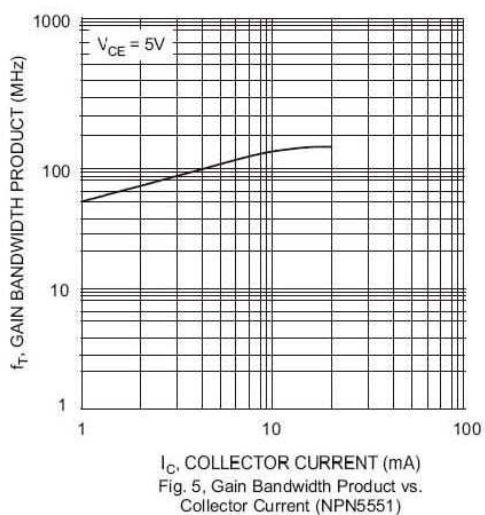
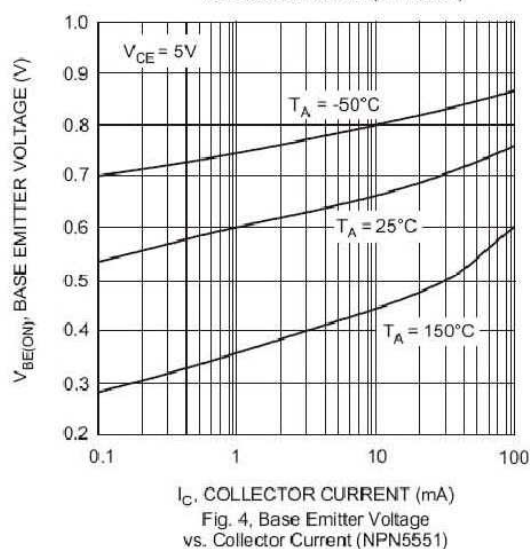
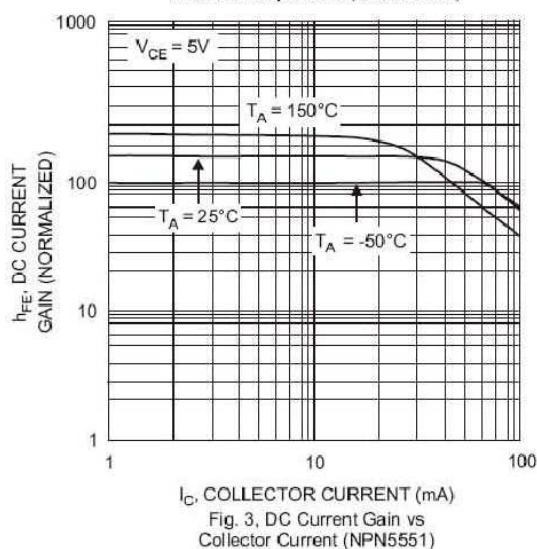
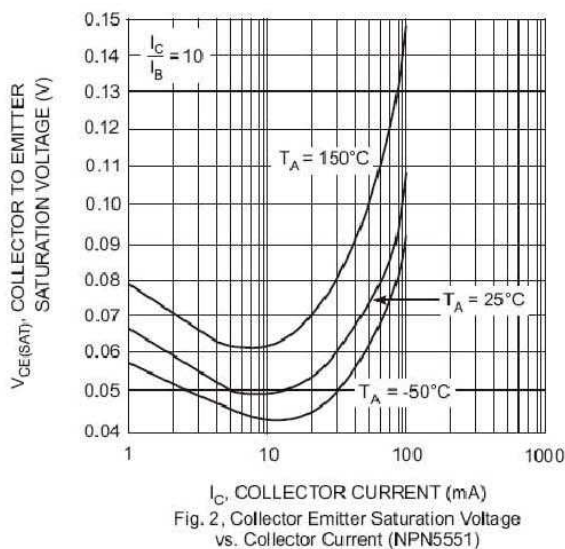
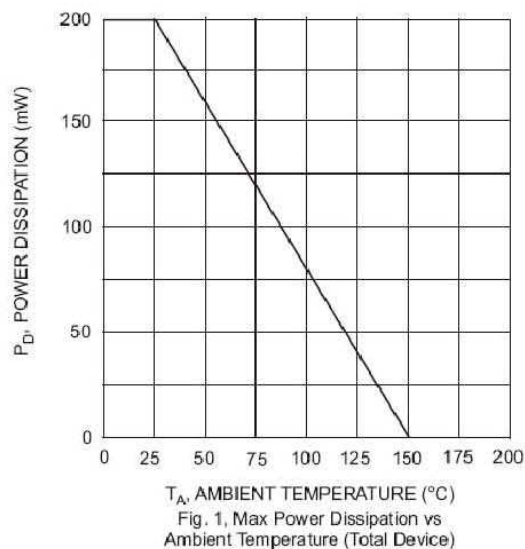
NPN5551 ELECTRICAL CHARACTERISTICS at Ta = 25°C

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	TEST CONDITIONS
Collector-base breakdown voltage	$V_{(BR)CBO}$	180	-	V	$I_C=100\mu A, I_E=0$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	160	-	V	$I_C=1mA, I_B=0$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	6	-	V	$I_E=10\mu A, I_C=0$
Collector cut-off current	I_{CBO}	-	0.05	μA	$V_{CB}=120V, I_E=0$
Emitter cut-off current	I_{EBO}	-	0.05	μA	$V_{EB}=4V, I_C=0$
DC current gain	$h_{FE(1)}$	80	-		$V_{CE}=5V, I_C=1mA$
	$h_{FE(2)}$	80	250		$V_{CE}=5V, I_C=10mA$
	$h_{FE(3)}$	30	-		$V_{CE}=5V, I_C=50mA$
Collector-emitter saturation voltage	$V_{CE(sat)1}$	-	0.15	V	$I_C=10mA, I_B=1mA$
	$V_{CE(sat)2}$	-	0.2	V	$I_C=50mA, I_B=5mA$
Base-emitter saturation voltage	$V_{BE(sat)1}$	-	1	V	$I_C=10mA, I_B=1mA$
	$V_{BE(sat)2}$	-	1	V	$I_C=50mA, I_B=5mA$
Transition frequency	f_T	100	300	MHz	$V_{CE}=10V, I_C=10mA, f=100MHz$
Output Capacitance	C_{OB}	-	6.0	pF	$V_{CB}=10V, f=1.0MHz, I_E=0$
Noise Figure	NF	-	8.0	dB	$V_{CE}=5.0V, I_C=200\mu A, R_S=1.0k\Omega, f=1.0kHz$

PNP5401 ELECTRICAL CHARACTERISTICS at Ta = 25°C

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	TEST CONDITIONS
Collector-base breakdown voltage	$V_{(BR)CBO}$	-160	-	V	$I_C=-100\mu A, I_E=0$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	-150	-	V	$I_C=-1mA, I_B=0$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	-5	-	V	$I_E=-10\mu A, I_C=0$
Collector cut-off current	I_{CBO}	-	-50	nA	$V_{CB}=-120V, I_E=0$
Emitter cut-off current	I_{EBO}	-	-50	nA	$V_{EB}=-3V, I_C=0$
DC current gain	$h_{FE(1)}$	50	-		$V_{CE}=-5V, I_C=-1mA$
	$h_{FE(2)}$	60	240		$V_{CE}=-5V, I_C=-10mA$
	$h_{FE(3)}$	50	-		$V_{CE}=-5V, I_C=-50mA$
Collector-emitter saturation voltage	$V_{CE(sat)1}$	-	-0.2	V	$I_C=-10mA, I_B=-1mA$
	$V_{CE(sat)2}$	-	-0.5	V	$I_C=-50mA, I_B=-5mA$
Base-emitter saturation voltage	$V_{BE(sat)1}$	-	-1	V	$I_C=-10mA, I_B=-1mA$
	$V_{BE(sat)2}$	-	-1	V	$I_C=-50mA, I_B=-5mA$
Transition frequency	f_T	100	300	MHz	$V_{CE}=-10V, I_C=-10mA, f=100MHz$
Output Capacitance	C_{OB}	-	6.0	pF	$V_{CB}=-10V, f=1.0MHz, I_E=0$
Noise Figure	NF	-	8.0	dB	$V_{CE}=-5.0V, I_C=-200\mu A, R_S=10\Omega, f=1.0kHz$

CHARACTERISTIC CURVES



CHARACTERISTIC CURVES (cont'd)

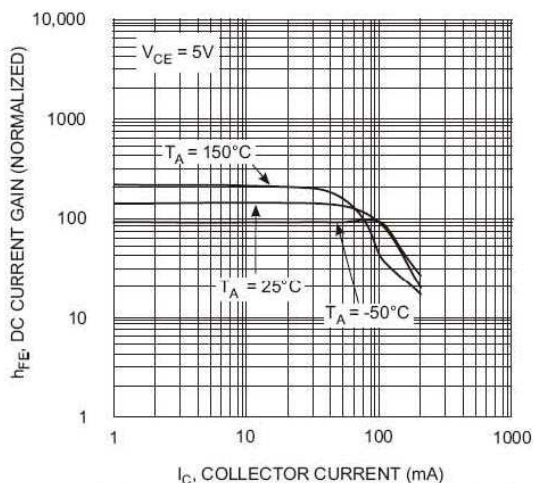


Fig. 7, DC Current Gain vs. Collector Current (PNP5401)

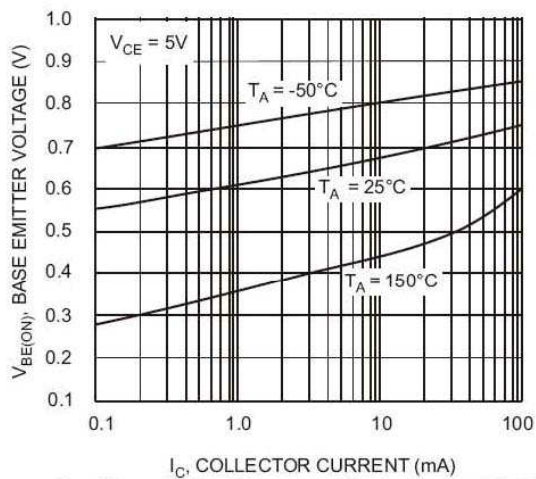


Fig. 8, Base Emitter Voltage vs. Collector Current (PNP5401)

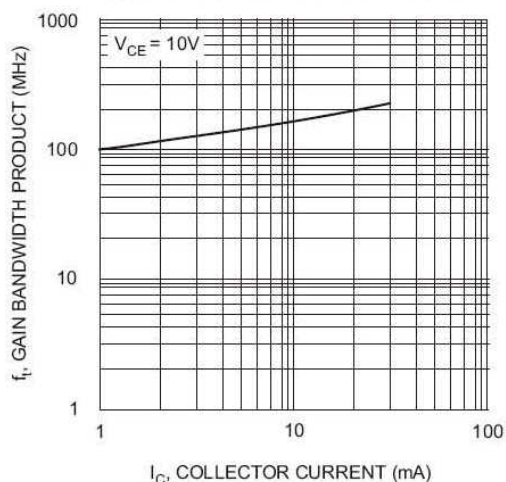


Fig. 9, Gain Bandwidth Product vs Collector Current (PNP5401)