

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

DESCRIPTION

CZD1184-C is designed for medium power amplifier applications.

FEATURES

- Low Collector Saturation Voltage

MARKING

B1184
041

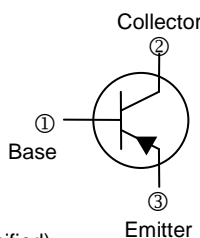
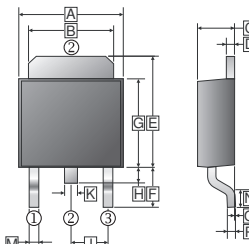
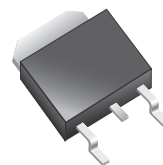
PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch

ORDER INFORMATION

Part Number	Type
CZD1184-C	Lead (Pb)-free and Halogen-free

TO-252 (D-Pack)



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.3	6.9	J	2.3	REF.
B	4.95	5.53	K	0.89	REF.
C	2.1	2.5	M	0.45	1.14
D	0.4	0.9	N	1.55	Typ.
E	6	7.7	O	0	0.15
F	2.90	REF.	P	0.58	REF.
G	5.4	6.4			
H	0.6	1.2			

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-3	A
Pulsed Collector Current		-6	
Total Power Dissipation	P_D	$T_A=25^\circ\text{C}$	1
		$T_C=25^\circ\text{C}$	10
Junction and Storage Temperature	T_J, T_{STG}	-55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CBO}	-80	-	-	V	$I_C = -100\mu\text{A}, I_E = 0$
Collector-Emitter breakdown Voltage	BV_{CEO}	-60	-	-	V	$I_C = -10\text{mA}, I_B = 0$
Emitter-Base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -100\mu\text{A}, I_C = 0$
Collector Cut-off Current	I_{CBO}	-	-	-100	nA	$V_{CB} = -60\text{V}, I_E = 0$
Emitter Cut-off Current	I_{EBO}	-	-	-100	nA	$V_{EB} = -4\text{V}, I_C = 0$
Collector-Emitter Saturation Voltage ¹	$V_{CE(sat)1}$	-	-	-300	mV	$I_C = -1\text{A}, I_B = -100\text{mA}$
	$V_{CE(sat)2}$	-	-	-600	mV	$I_C = -3\text{A}, I_B = -300\text{mA}$
Base-Emitter Saturation Voltage ¹	$V_{BE(sat)}$	-	-	-1.25	V	$I_C = -1\text{A}, I_B = -100\text{mA}$
	$V_{BE(on)}$	-	-	-1	V	$V_{CE} = -2\text{V}, I_C = -1\text{A}$
DC Current Gain ¹	$h_{FE(1)}$	70	-	-		$V_{CE} = -2\text{V}, I_C = -50\text{mA}$
	$h_{FE(2)}$	100	-	300		$V_{CE} = -2\text{V}, I_C = -500\text{mA}$
	$h_{FE(3)}$	80	-	-		$V_{CE} = -2\text{V}, I_C = -1\text{A}$
	$h_{FE(4)}$	40	-	-		$V_{CE} = -2\text{V}, I_C = -2\text{A}$
Transition Frequency	f_T	-	140	-	MHz	$V_{CE} = -5\text{V}, I_C = -100\text{mA}$ $f = 100\text{MHz}$
Collector Output Capacitance	C_{ob}	-	-	30	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

Note:

1. Pulse Test: Pulse width $\leq 380\mu\text{s}$, duty cycle $\leq 2\%$.

CHARACTERISTIC CURVES

Fig.1 I_C - $V_{BE(on)}$
at $V_{CE} = -2V, T_a = 25C$

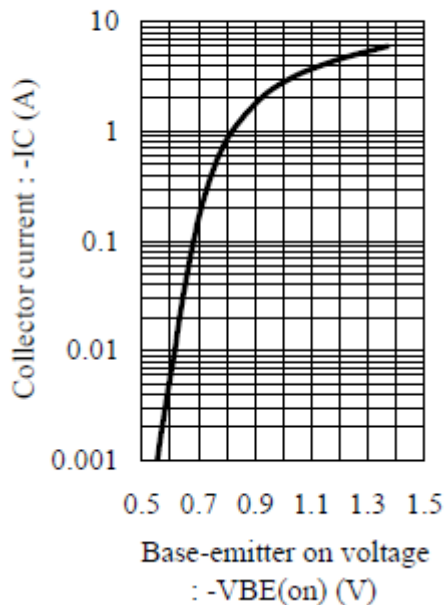


Fig.2 h_{FE} - I_C
at $V_{CE} = -2V, T_a = 25C$

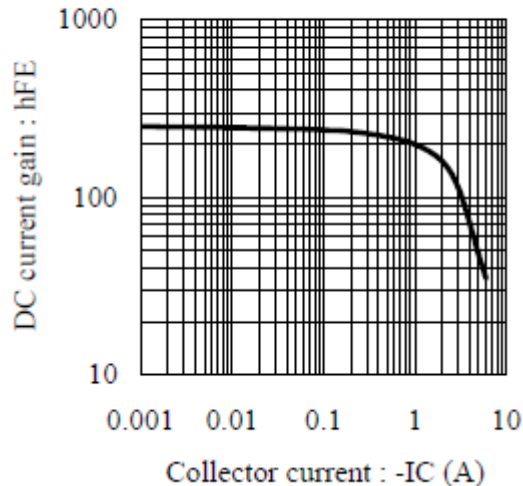


Fig.3 $V_{CE(sat)}$ - I_C
at $I_C/I_B = 10, T_a = 25C$

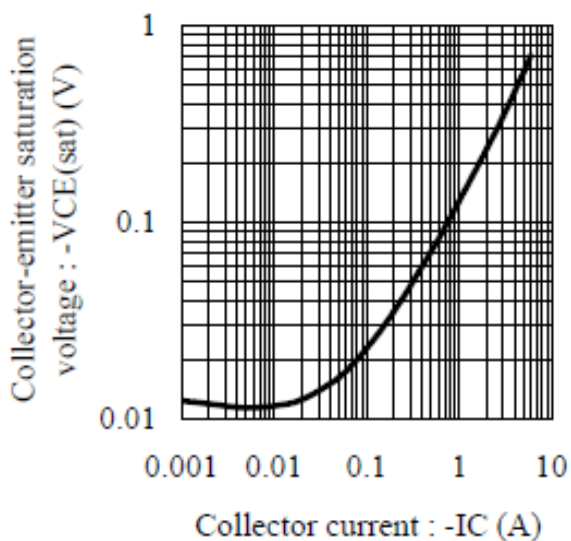
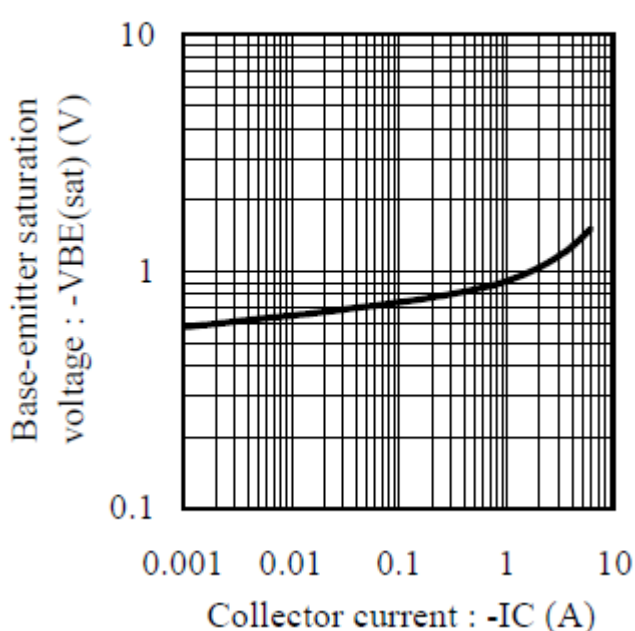


Fig.4 $V_{BE(sat)}$ - I_C
at $I_C/I_B = 10, T_a = 25C$



CHARACTERISTIC CURVES

Fig.5 f_T - I_E
at $V_{CE} = -5V$, $T_a = 25C$

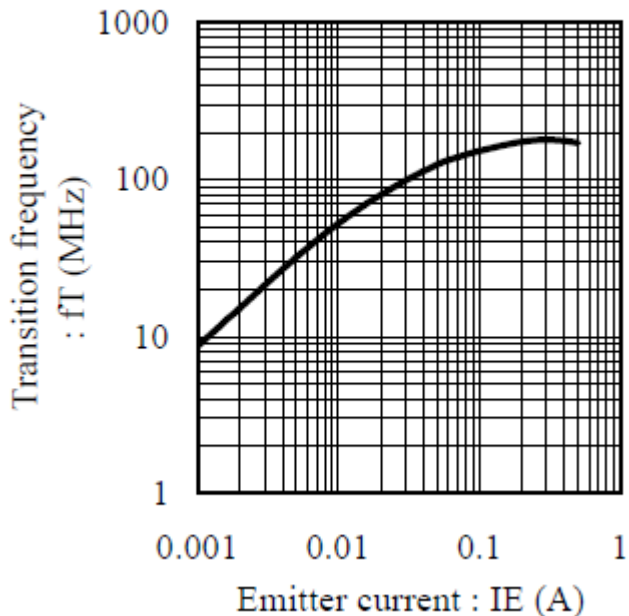


Fig.6 C_{ob} - V_{CB}
at $f = 1MHz$, $T_a = 25C$

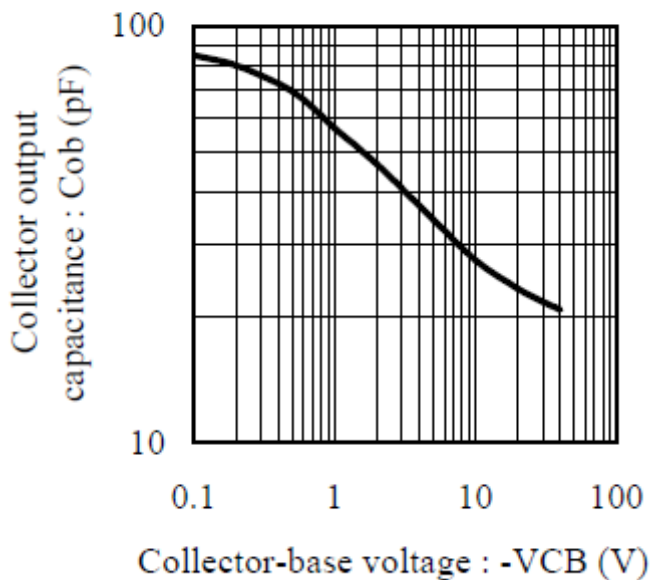


Fig.7 C_{ib} - V_{EB}
at $f = 1MHz$, $T_a = 25C$

