

## DESCRIPTION

The CZD5706 is designed for high current switching application.

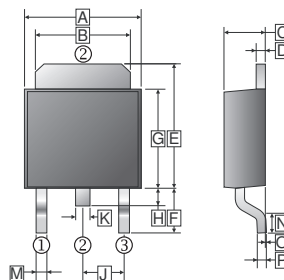
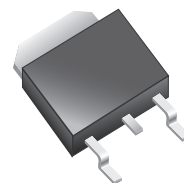
## FEATURES

- ◆ Large Current Capacitance
- ◆ Low Collector to Emitter Saturation Voltage
- ◆ High-Speed Switching
- ◆ High Allowable Power Dissipation

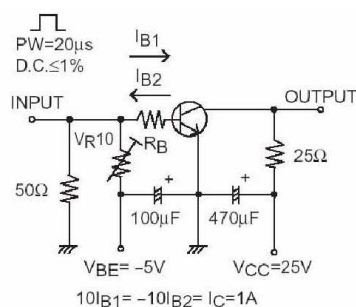
## MARKING



## D-Pack (TO-252)



## SWITCHING TIME TEST CIRCUIT



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.35	6.80	J	2.30 TYP.	
B	5.20	5.50	K	0.70	0.90
C	2.20	2.40	L	0.50	0.70
D	0.40	0.60	M	0.60	1.00
E	6.40	7.35	N	1.40	1.78
F	2.20	3.00	O	0.00	1.27
G	5.40	5.80	P	0.43	0.58
H	0.60	1.20			

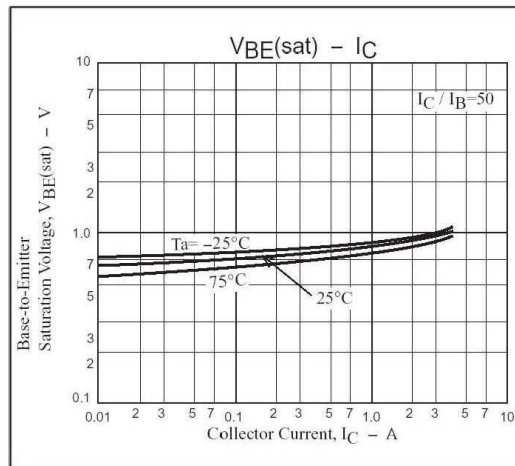
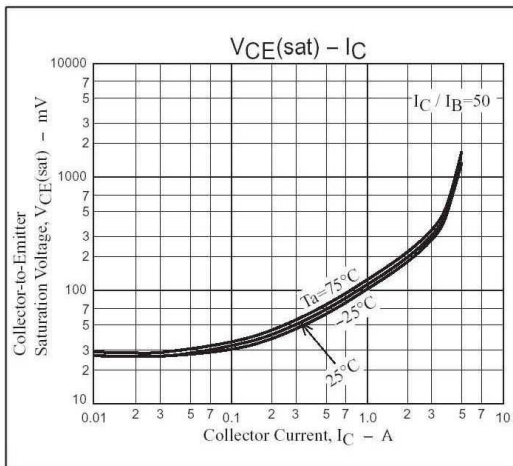
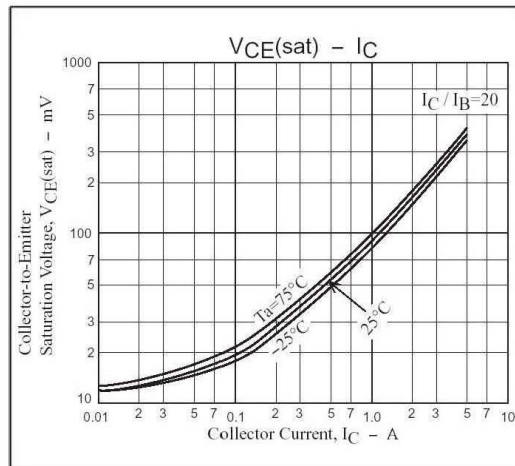
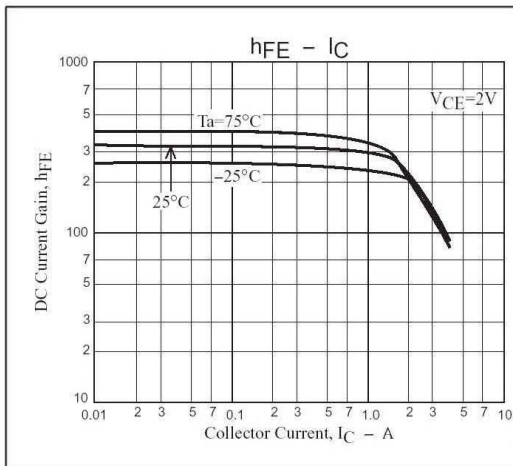
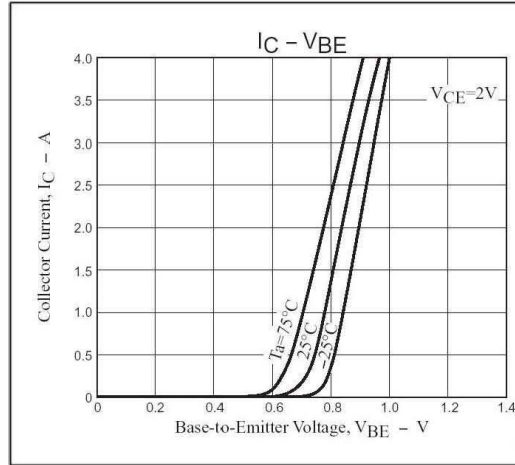
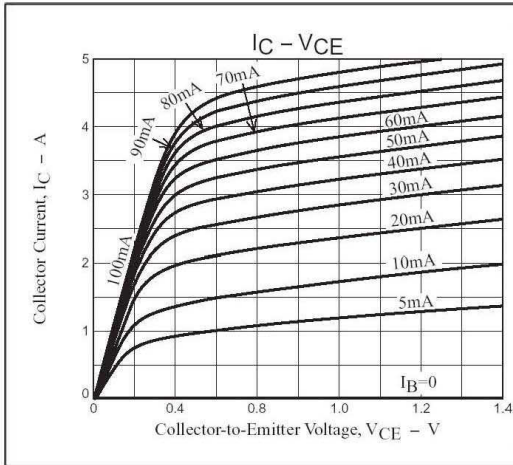
## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Collector to Base Voltage	V <sub>CBO</sub>	80	V
Collector to Emitter Voltage	V <sub>CES</sub>	80	V
Collector to Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter to Base Voltage	V <sub>EBO</sub>	6	V
Collector Current	I <sub>C</sub>	5	A
Collector Current(Pulse)	I <sub>CP</sub>	7.5	A
Base Current	I <sub>B</sub>	1.2	A
Total Power Dissipation (T <sub>A</sub> =25°C)	P <sub>D</sub>	0.8	W
Total Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	15	W
Junction, Storage Temperature	T <sub>J</sub> , T <sub>STG</sub>	150, -55~150	°C

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	80	-	-	V	I <sub>C</sub> =10µA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CES</sub>	80	-	-	V	I <sub>C</sub> =100µA, R <sub>BE</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	50	-	-	V	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	6	-	-	V	I <sub>E</sub> =10µA, I <sub>C</sub> =0
Collector Cut-Off Current	I <sub>CBO</sub>	-	-	1	µA	V <sub>CB</sub> =40V, I <sub>E</sub> =0
Emitter Cut-Off Current	I <sub>EBO</sub>	-	-	1	µA	V <sub>EB</sub> =4V, I <sub>C</sub> =0
Collector-Emitter Saturation Voltage	V <sub>CE(sat)1</sub>	-	-	135	mV	I <sub>C</sub> =1A, I <sub>B</sub> =50mA
	V <sub>CE(sat)2</sub>	-	-	240	mV	I <sub>C</sub> =2A, I <sub>B</sub> =100mA
Base-Emitter Voltage, On	V <sub>BE(sat)</sub>	-	-	1.2	V	I <sub>C</sub> =2A, I <sub>B</sub> =100mA
DC Current Gain	h <sub>FE</sub>	200	-	560		V <sub>CE</sub> =2V, I <sub>C</sub> =500mA
Transition Frequency	f <sub>T</sub>	-	400	-	MHz	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA
Output Capacitance	C <sub>OB</sub>	-	15	-	pF	V <sub>CB</sub> =10V, f=1MHz
Turn-On Time	T <sub>ON</sub>	-	35	-	nS	See specified test circuit.
Storage Time	T <sub>STG</sub>	-	300	-	nS	See specified test circuit.
Fall Time	T <sub>F</sub>	-	20	-	nS	See specified test circuit.

**CHARACTERISTIC CURVES**



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