

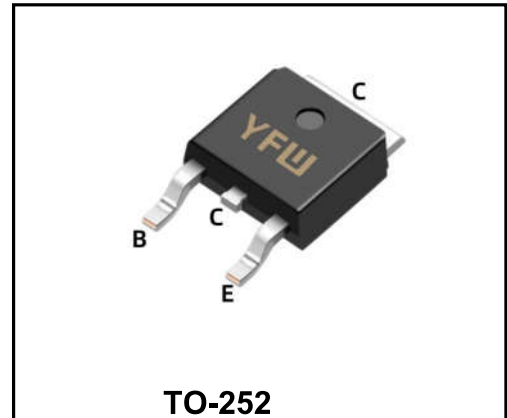
Plastic-Encapsulate Transistors

Applications

Linear and switching industrial application

Features

Complementary to MJD32C



Absolute Maximum Rating (Ta=25°C)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	100	V
Collector-Emitter Voltage		BV_{CEO}	100	V
Emitter-Base Voltage		BV_{EBO}	5	V
Collector Current(DC)		I_C	3	A
Collector peak current		I_{CM}	5	A
Collector Dissipation	Ta =25 °C	P_C	2	W
	Tc =25 °C		40	
Junction Temperature		T_j	150	°C
Storage Temperature		T_{stg}	-65~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 30mA, I_B = 0$	100			V
Collector cut-off current	I_{CEO}	$V_{CE} = 60V, I_E = 0$			0.3	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_E = 0$			1	mA
Collector cut-off current	I_{CES}	$V_{CE} = 100V, V_{BE} = 0$			0.2	mA
DC current gain*	h_{FE}	$V_{CE} = 4V, I_C = 1A$	25		50	
		$V_{CE} = 4V, I_C = 3A$	10			
Collector-emitter saturation voltage*	$V_{CE(sat)}$	$I_C = 3A, I_B = 375mA$			1.2	V
Base-Emitter ON Voltage*	$V_{BE(on)}$	$V_{CE} = 4V, I_C = 3A$			1.8	V
Current Gain Bandwidth Product*	f_T	$V_{CE} = 10V, I_C = 500mA$	3.0			MHz

* Pulse Test : $PW \leq 300\mu s$, Duty cycle $\leq 2\%$

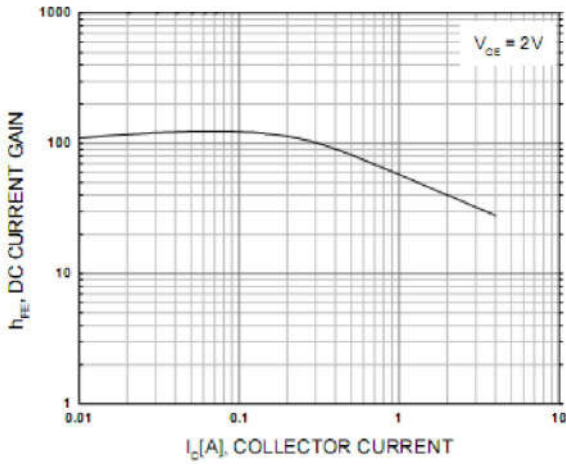


Figure 1. DC current Gain

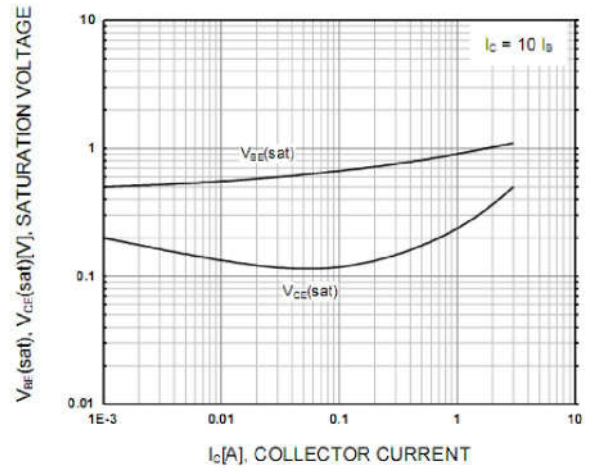


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

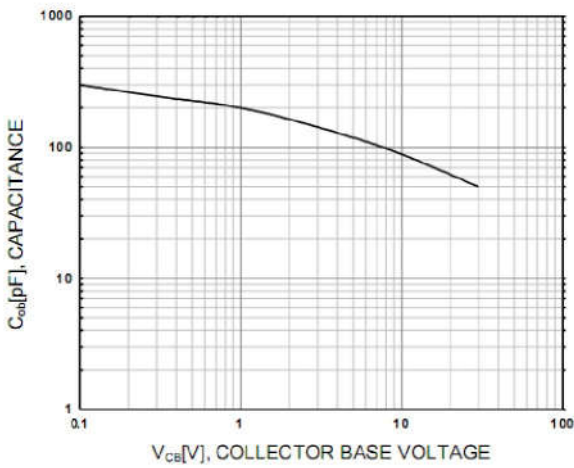


Figure 3. Collector Capacitance

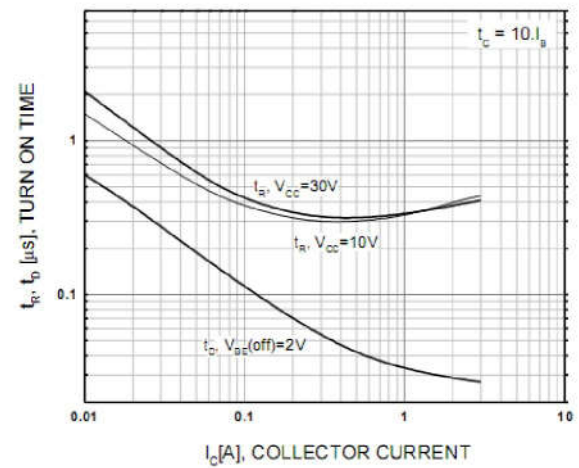


Figure 4. Turn On Time

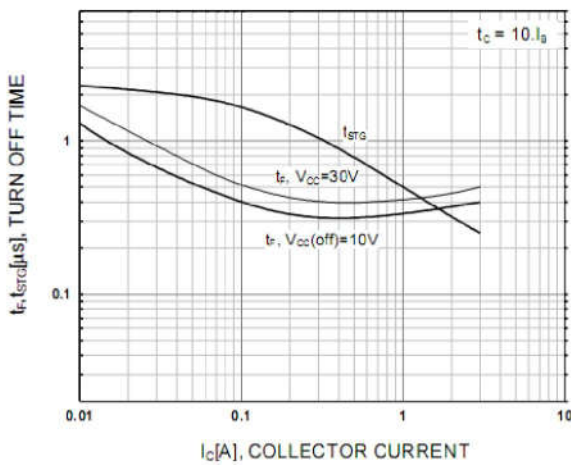


Figure 5. Turn Off Time

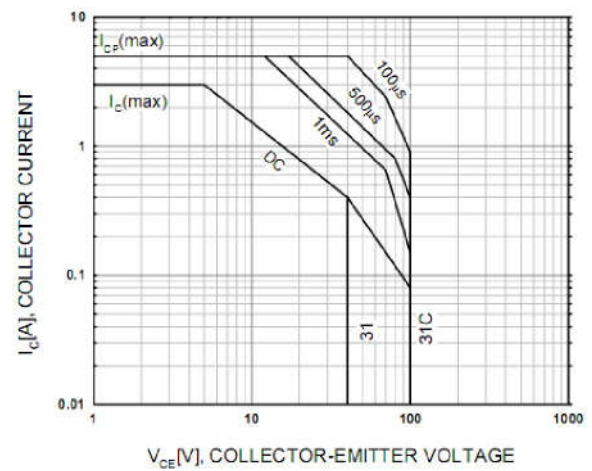
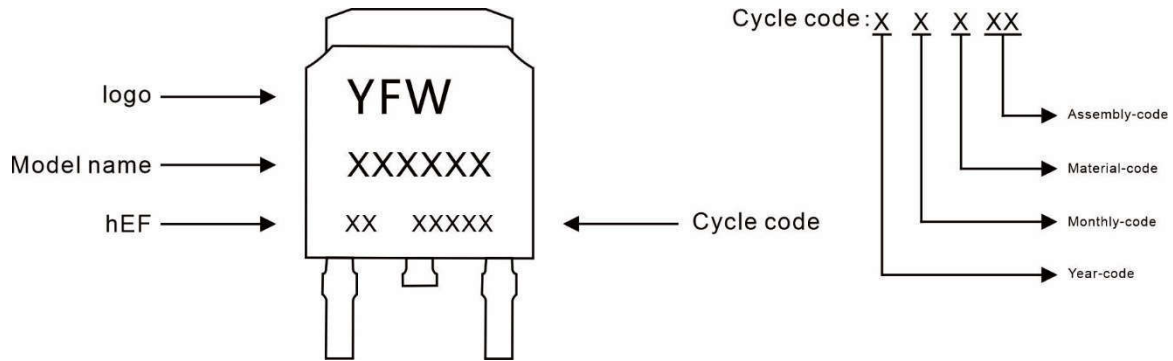


Figure 6. Safe Operating

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
MJD31C	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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