

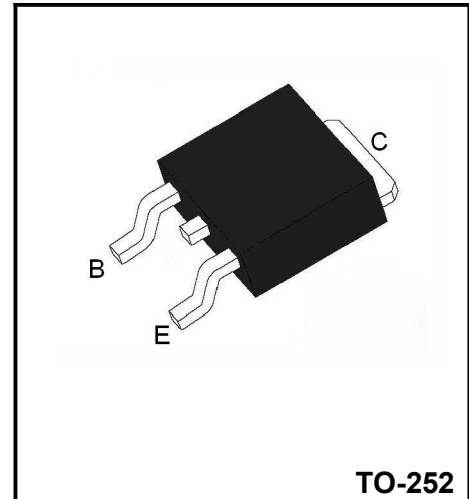
Plastic-Encapsulate Transistors

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

Electrical Characteristics

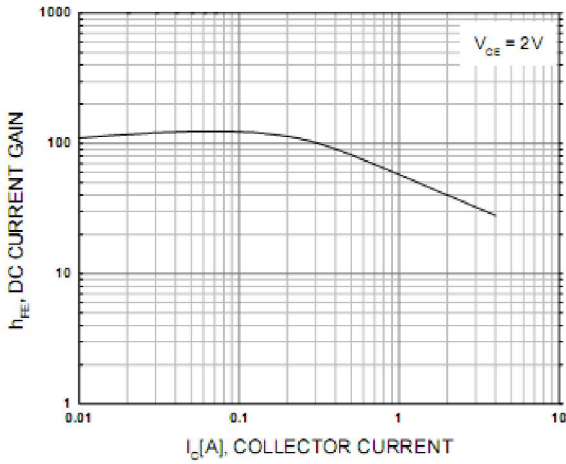


Figure 1. DC current Gain

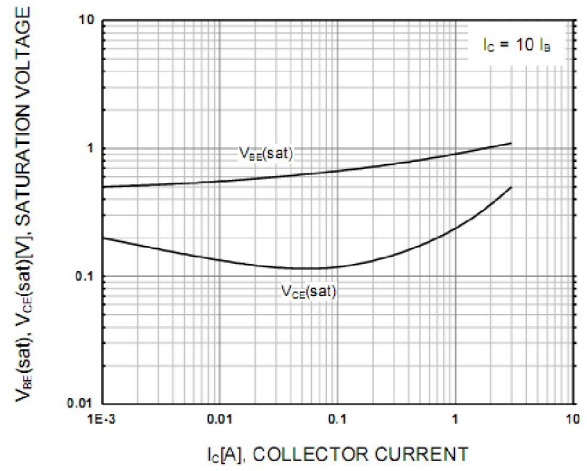


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

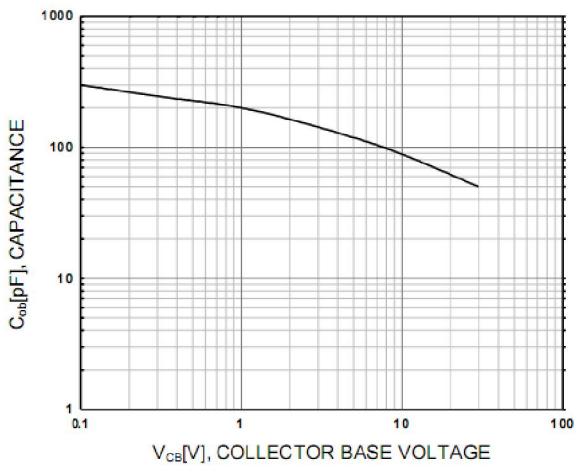


Figure 3. Collector Capacitance

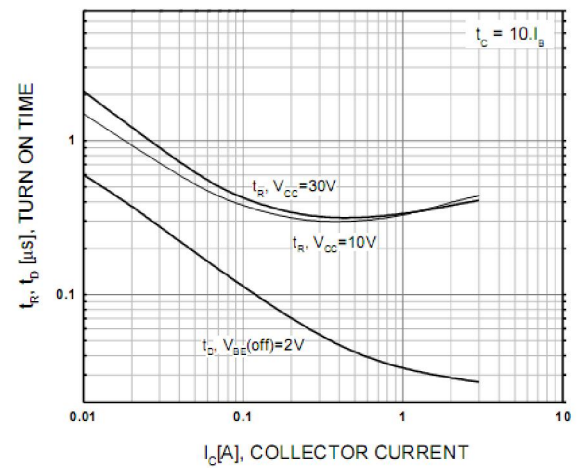


Figure 4. Turn On Time

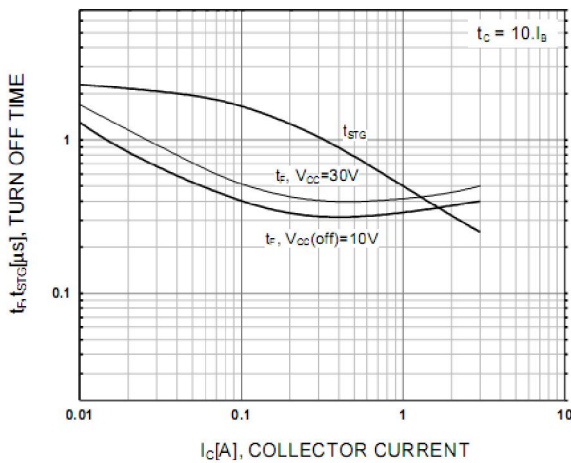


Figure 5. Turn Off Time

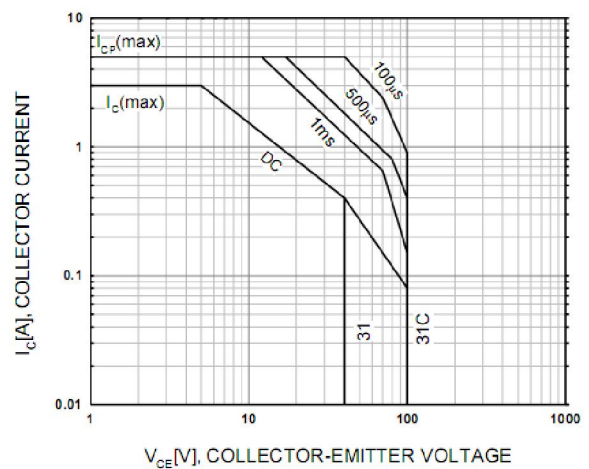


Figure 6. Safe Operating

Package Outline

TO-252

	Symbol	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	9.60	10.20	0.378	0.402	
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	

Product Specification Classification

Part Number	Package	Marking	Pack
MJD31C	TO-252	YFW MJD31C XXXXX	2500PCS/Tape