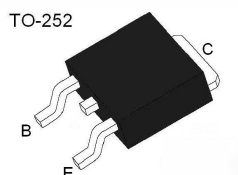


Applications

Linear and switching industrial application

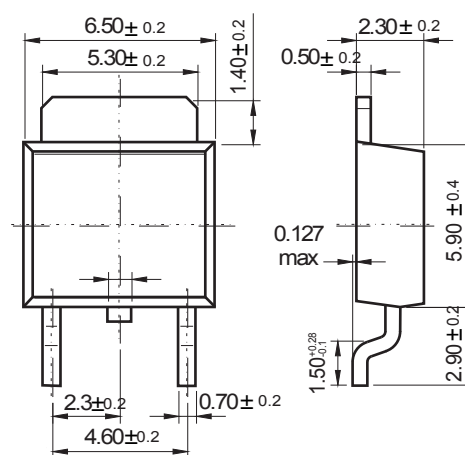
Features

- Complementary to MJD32C



TO-252

Unit: mm



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

MJD31C NPN

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}	$V_{CE} = 4V, I_C = 1A$ $V_{CE} = 4V, I_C = 3A$	25 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 $\leq 2\%$

RATING AND CHARACTERISTIC CURVES (MJD31C)

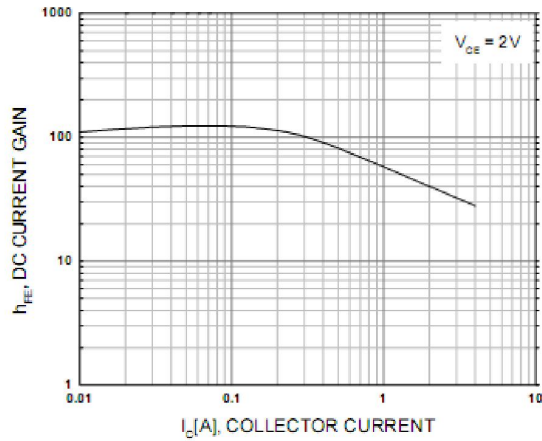


Figure 1. DC current Gain

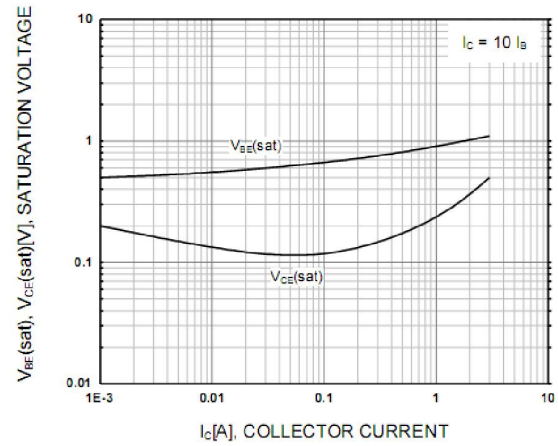


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

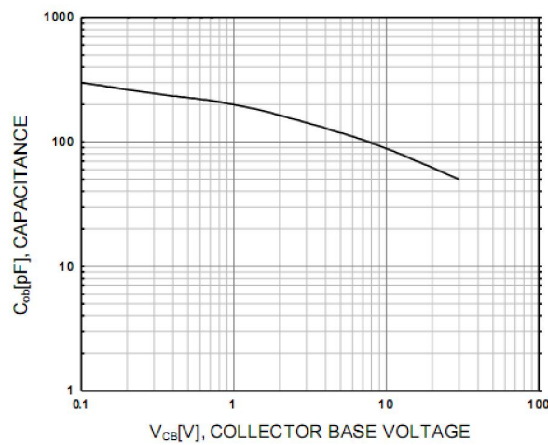


Figure 3. Collector Capacitance

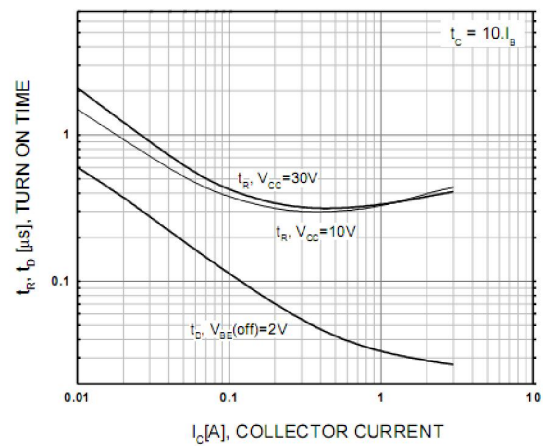


Figure 4. Turn On Time

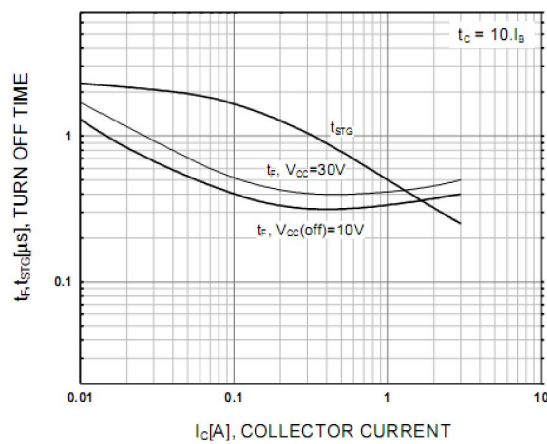


Figure 5. Turn Off Time

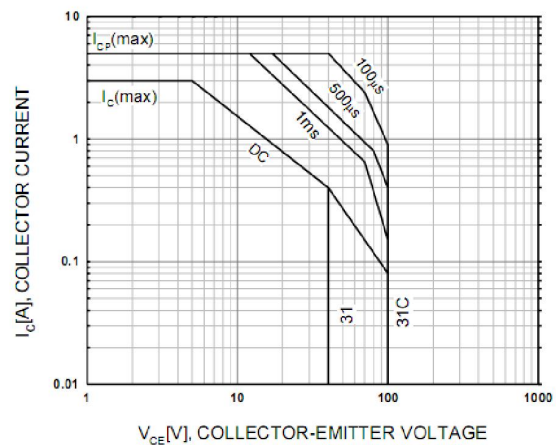


Figure 6. Safe Operating