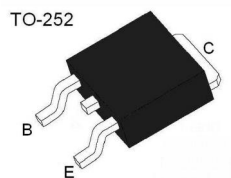


FEATURES

- Complementary to MJD31C



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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 unless otherwise specified)

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

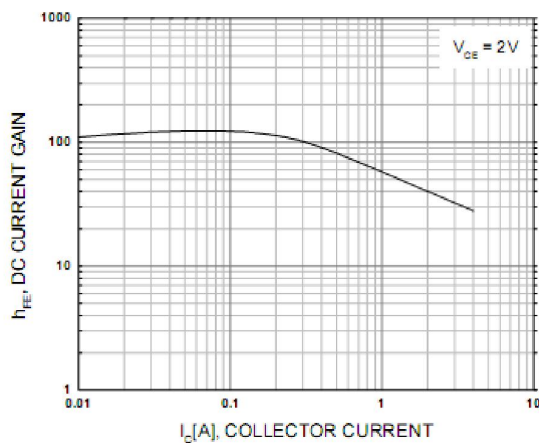


Figure 1. DC current Gain

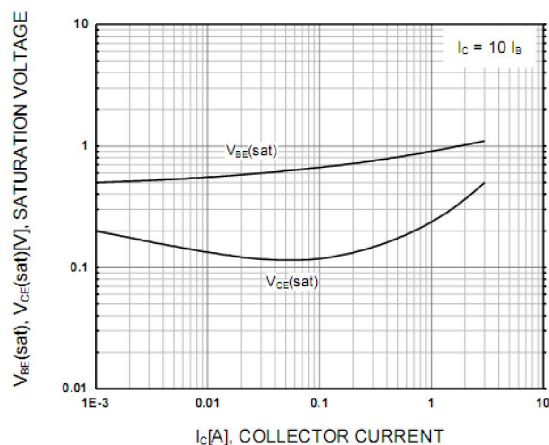


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

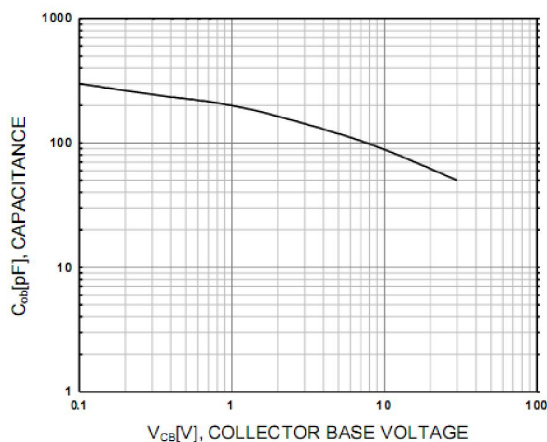


Figure 3. Collector Capacitance

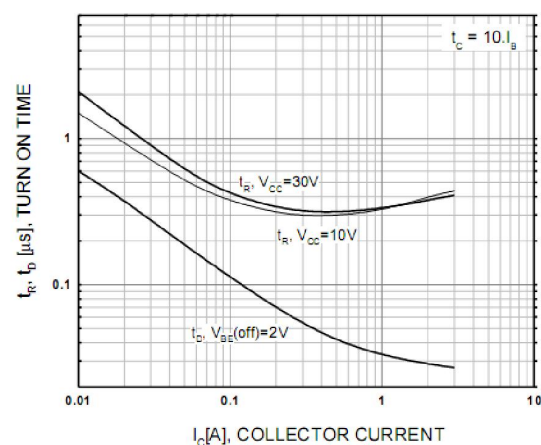


Figure 4. Turn On Time

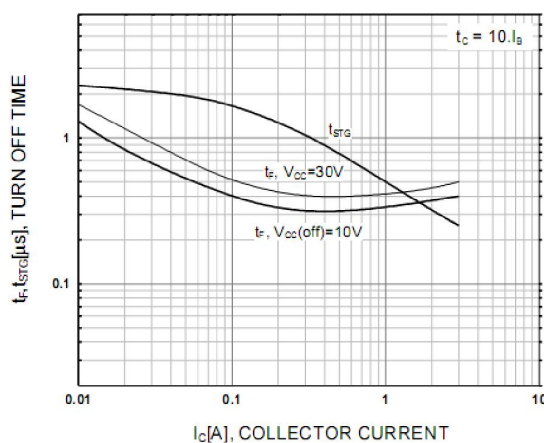


Figure 5. Turn Off Time

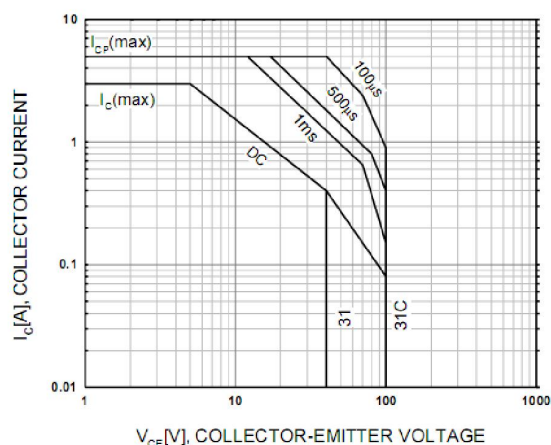
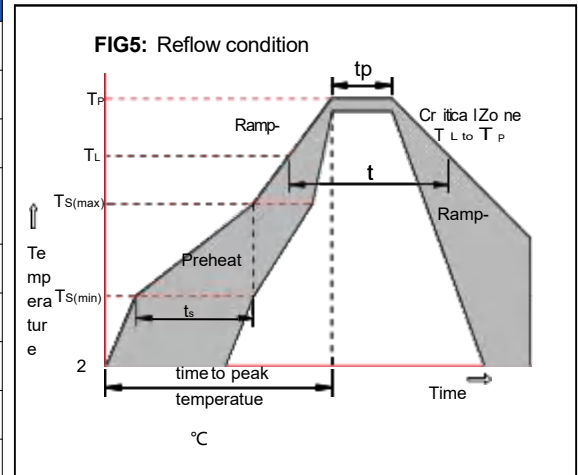


Figure 6. Safe Operating

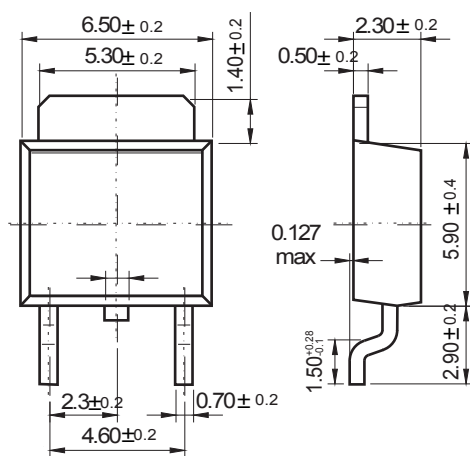
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C

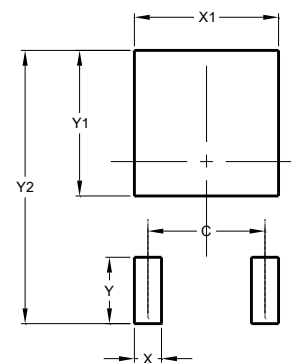


Package Dimensions & Suggested Pad Layout

TO-252

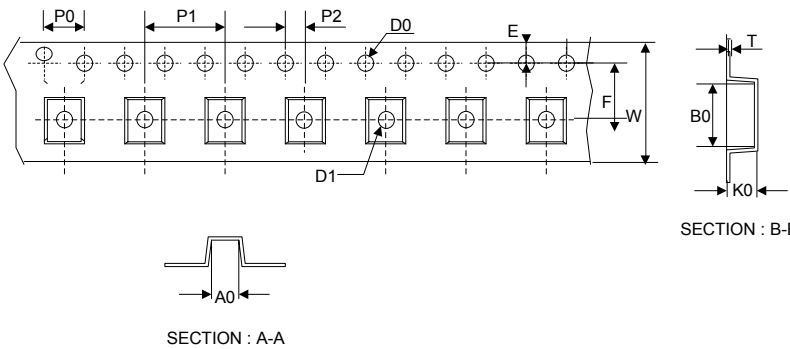
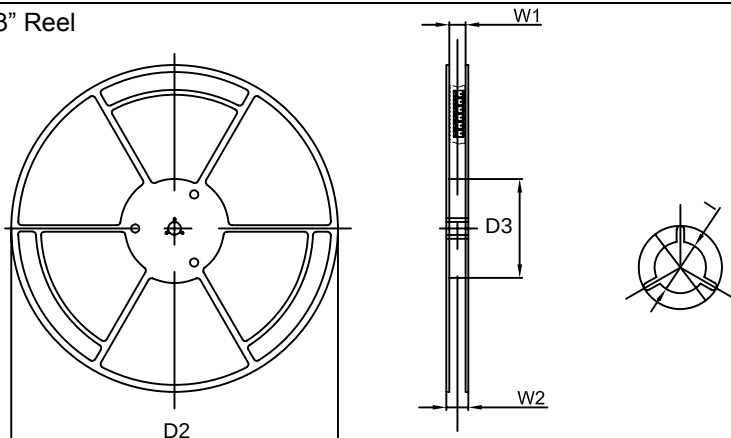


Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	4.55
X	1.50
X1	5.80
Y	2.70
Y1	6.00
Y2	10.90

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	8.00±0.20
		P2	2.00±0.20
		D0	1.55±0.15
		D1	1.55±0.20
		E	1.75±0.20
		F	7.50±0.20
		W	16.00±0.20
		A0	7.10±0.20
		B0	10.50±0.20
		K0	2.70±0.20
		T	0.30±0.10
		D2	330.0±5.0
		D3	100.0±4.0
13" Reel		W1	20.0±5.0
		D3	100.0±4.0
		W2	25.0±5.0
		I	13.0±2.0
		Quantity: 2500PCS	