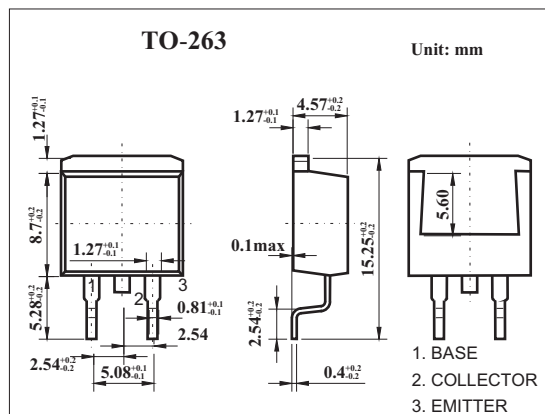


# 3DD13007

## ■ Features

- High Speed Switching
- Suitable for Switching Regulator and Motor Control



## ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	700	V
Collector-Emitter Voltage	V <sub>CEO</sub>	400	V
Emitter-Base Voltage	V <sub>EBO</sub>	9	V
Collector Current -Continuous	I <sub>c</sub>	8	A
Collector Dissipation	P <sub>c</sub>	2	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to 150	°C

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> = 1mA , I <sub>E</sub> = 0	700			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> = 10mA , I <sub>B</sub> = 0	400			V
Emitter-base Breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1mA , I <sub>c</sub> = 0	9			V
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 700V , I <sub>E</sub> = 0			1	mA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 7V , I <sub>c</sub> = 0			100	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V , I <sub>c</sub> = 2A	8		40	
		V <sub>CE</sub> = 5V , I <sub>c</sub> = 5A	5		30	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> = 2A , I <sub>B</sub> = 0.4A			1	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> = 2A , I <sub>B</sub> = 0.4A			1.2	V
Collector output capacitance	C <sub>ob</sub>	V <sub>CE</sub> = 10V , I <sub>E</sub> = 0 , f = 0.1MHz		80		pF
Fall time	t <sub>f</sub>	I <sub>B1</sub> = -I <sub>B2</sub> = 1A , I <sub>c</sub> = 5A , V <sub>CC</sub> = 125V			0.7	μs
Storage time	t <sub>s</sub>	I <sub>B1</sub> = -I <sub>B2</sub> = 1A , I <sub>c</sub> = 5A , V <sub>CC</sub> = 125V			3	μs
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10 V , I <sub>c</sub> = 500 mA , f = 1 MHz	4			MHz

## ■ h<sub>FE</sub> Classification

Rank						
h <sub>FE</sub>	8~15	15~20	20~25	25~30	30~35	35~40



# 3DD13007

■ Typical Characteristics

