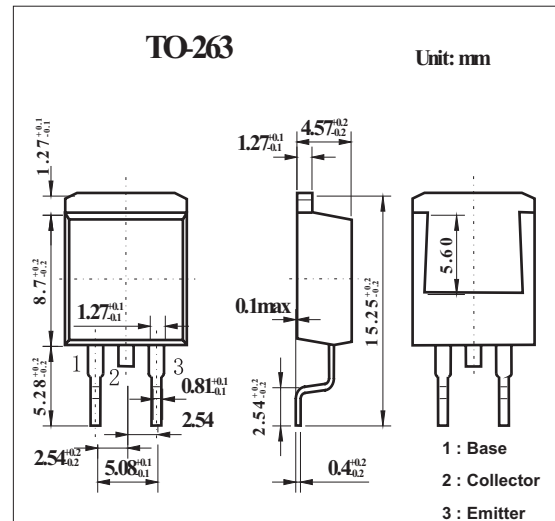


## Silicon NPN Triple Diffused Type

## 2SD2414

## ■ Features

- Low Saturation Voltage:  $V_{CE(sat)}=0.5V(\text{Max.})(\text{at } I_C=4A)$

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	100	V
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	7	A
Base current	$I_B$	1	A
Collector power dissipation	$P_C$	1.5	W
		40	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$

## 2SD2414

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cut-off current	IcBO	V <sub>CB</sub> = 100 V, I <sub>E</sub> = 0			5	μA	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0			5	mA	
Collector-emitter sustaining voltage	V <sub>CEO</sub>	I <sub>C</sub> = 50 mA, I <sub>B</sub> = 0	80			V	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 1 V, I <sub>C</sub> = 1 A	100		320		
		V <sub>CE</sub> = 1 V, I <sub>C</sub> = 4 A	30				
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 4A, I <sub>B</sub> = 0.4A		0.25	0.5	V	
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 4A, I <sub>B</sub> = 0.4A		0.9	1.4	V	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> = 1A		10		MHz	
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz		200		pF	
Storage time Turn-on Time	t <sub>on</sub>	<p>20 μs I<sub>B1</sub> INPUT I<sub>B2</sub> OUTPUT 10 Ω I<sub>B1</sub> = -I<sub>B2</sub> = 0.3 A, V<sub>CC</sub> = 30 V DUTY CYCLE ≤ 1%</p>		0.4		μs	
Storage time Storage Time	t <sub>stg</sub>				2.5		
Storage time Fall Time	t <sub>f</sub>				0.5		