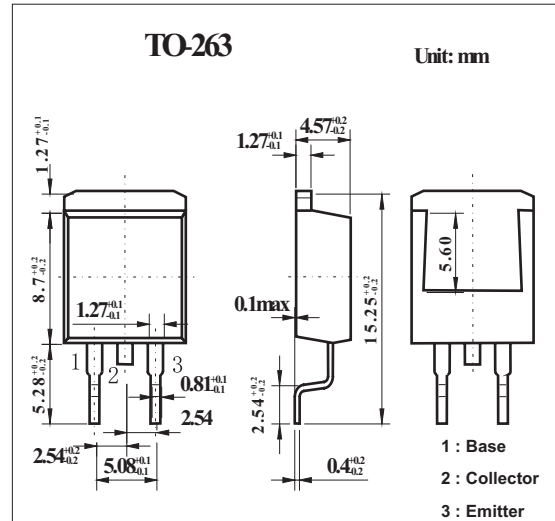


■ Features


- Surface mount type device making the following possible.
- Low collector-to-emitter saturation voltage.



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	60	V
Collector-emitter voltage	$V_{CE0}$	50	V
Emitter-base voltage	$V_{EB0}$	6	V
Collector current	$I_c$	5	A
Collector current (pulse)	$I_{CP}$	9	A
Collector dissipation	$P_c$	1.65	W
$T_c = 25^\circ\text{C}$		30	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V <sub>CB</sub> = 40V , I <sub>E</sub> = 0			0.1	mA	
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V , I <sub>C</sub> = 0			0.1	mA	
DC current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V , I <sub>C</sub> = 1A	70		280		
		V <sub>CE</sub> = 2V , I <sub>C</sub> = 3A	30				
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 5V , I <sub>C</sub> = 1A		30		MHz	
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V , f = 1MHz		100		pF	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 3A , I <sub>B</sub> = 0.3A			0.4	V	
Collector-to-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1mA , I <sub>E</sub> = 0	60			V	
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA , R <sub>BE</sub> = ∞	50			V	
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1mA , I <sub>C</sub> = 0	6			V	
Turn-on time	t <sub>on</sub>	 <p>                     P<sub>tot</sub> = 200mW                      tr, tf = 50ns                      I<sub>B1</sub> = 10mA                      I<sub>C</sub> = 10mA                      V<sub>BE</sub> = 5V                      V<sub>CE</sub> = 20V                      R<sub>b1</sub> = 10Ω                      R<sub>e</sub> = 10Ω                      R<sub>c</sub> = 2A                 </p> <p>For PNP, the polarity is reversed. Unit (resistance : Ω, capacitance : F)</p>		0.1		μs	
Storage time	t <sub>stg</sub>				1.4		μs
Fall time	t <sub>f</sub>				0.2		μs

■ hFE Classification

Rank	Q	R	S
hFE	70~140	100~200	140~280