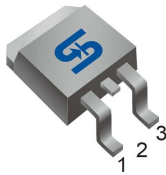


TO-263
(D²PAK)



Pin Definition:

1. Base
2. Collector
3. Emitter

PRODUCT SUMMARY

BV_{CBO}	1050V
BV_{CEO}	550V
I_C	5A
V_{CE(SAT)}	0.5V @ I _C =1A, I _B =200mA

Features

- High Voltage Capability
- High switching speed

Ordering Information

Part No.	Package	Packing
TSC1203ECM RNG	TO-263	800pcs / 13" Reel

Note: "G" denote for Halogen Free Product

Absolute Maximum Rating (T_A=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	1050	V
Collector-Emitter Voltage	V _{CEO}	550	V
Emitter-Base Voltage	V _{EBO}	9	V
Collector Current	DC	5	A
	Pulse(T _p <5ms)	8	
Base Current	DC	2	A
	Pulse(T _p <5ms)	4	
Collector Power Dissipation	T _C =25°C	36	W
Operating Junction Temperature	T _J	+150	°C
Operating Junction and Storage Temperature Range	T _{STG}	- 55 to +150	°C

Electrical Specifications (T_A=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	I _C =1mA, I _B =0	BV _{CBO}	1050	--	--	V
Collector-Emitter Breakdown Voltage	I _C = 5mA, I _E =0	BV _{CEO}	550	--	--	V
Emitter-Base Breakdown Voltage	I _E =10mA, I _C =0	BV _{EBO}	9	--	--	V
Collector Cutoff Current	V _{CE} =1050V, V _{BE} =0	I _{CES}	--	--	100	uA
Collector Cutoff Current	V _{CE} =550V, I _B =0	I _{CEO}	--	--	100	uA
Emitter Cutoff Current	V _{EB} =9V, I _C =0	I _{EBO}	--	--	10	uA
Collector-Emitter Saturation Voltage	I _C =1A, I _B =200mA	V _{CE(SAT)1}	--	0.12	0.5	V
	I _C =2A, I _B =400mA	V _{CE(SAT)2}	--	0.18	0.7	
	I _C =3A, I _B =1A	V _{CE(SAT)3}	--	0.22	1.5	
Base-Emitter Saturation Voltage	I _C =2A, I _B =400mA	V _{BE(SAT)1}	--	0.87	1.5	V
	I _C =3A, I _B =1A	V _{BE(SAT)2}	--	0.95	1.5	
DC Current Transfer Ratio	V _{CE} =5V, I _C =1mA	h _{FE} 1	10	--	--	
	V _{CE} =5V, I _C =10mA	h _{FE} 2	10	--	--	
	V _{CE} =5V, I _C =2A	h _{FE} 3	9	--	28	
	V _{CE} =3V, I _C =800mA	h _{FE} 4	14	--	32	

Resistive Load Switching Time (Ratings)

Turn-on Time	V _{CC} = 150V, I _C = 2A, I _{B1} = 0.4A, I _{B2} = -0.8A, t _p = 30uS	t _{on}	--	--	0.5	uS
Storage Time		t _s	--	2.5	3.5	uS
Fall Time		t _f	--	0.2	0.3	uS

Electrical Characteristics Curve ($T_A=25^\circ\text{C}$, unless otherwise noted)

Figure 1. Static Characteristics

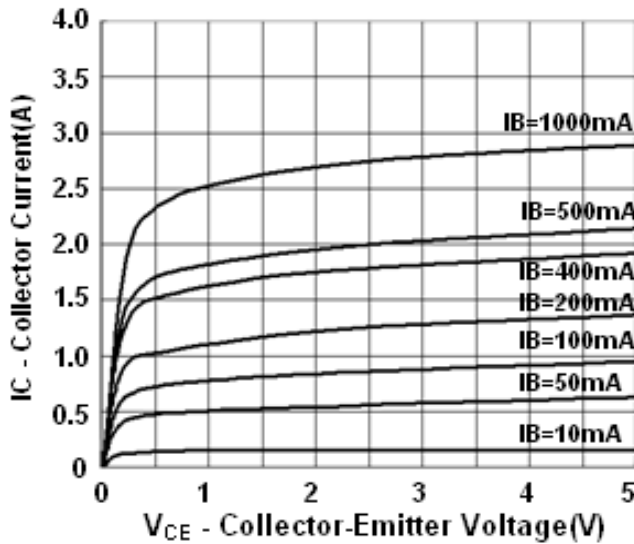


Figure 2. DC Current Gain

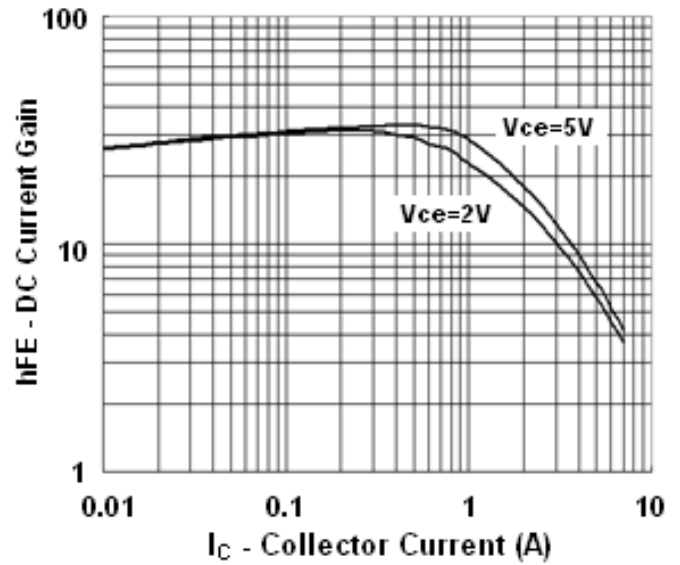


Figure 3. $V_{CE(SAT)}$ vs. Collector Current

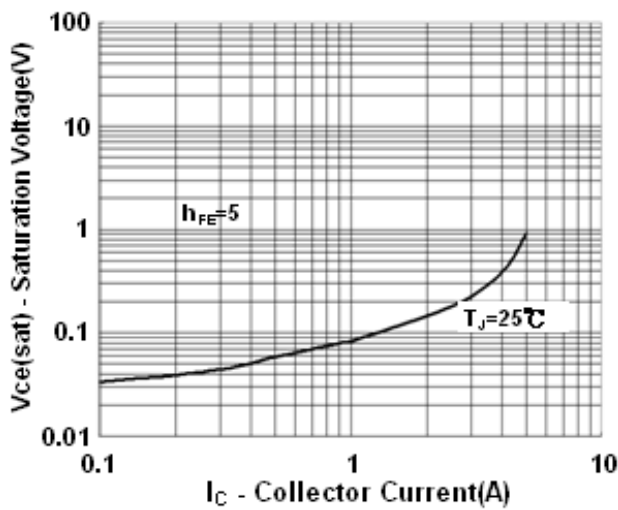


Figure 4. $V_{BE(SAT)}$ vs. Collector Current

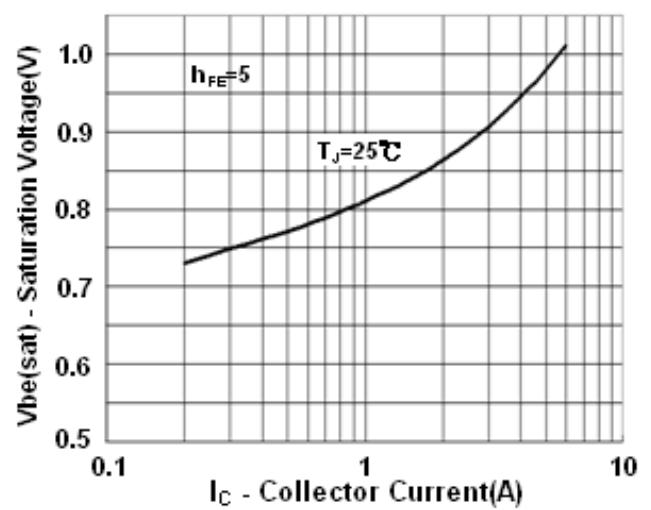


Figure 5. Safety Operating Area

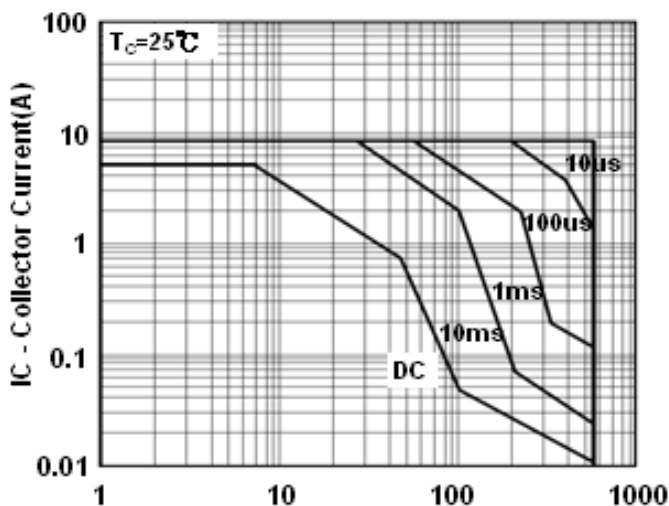
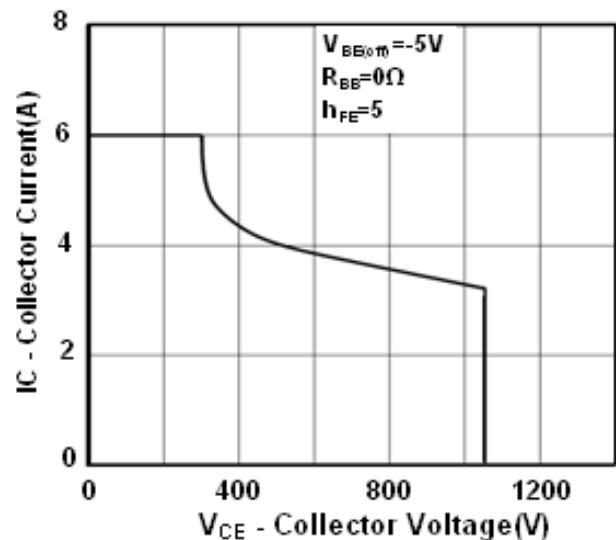
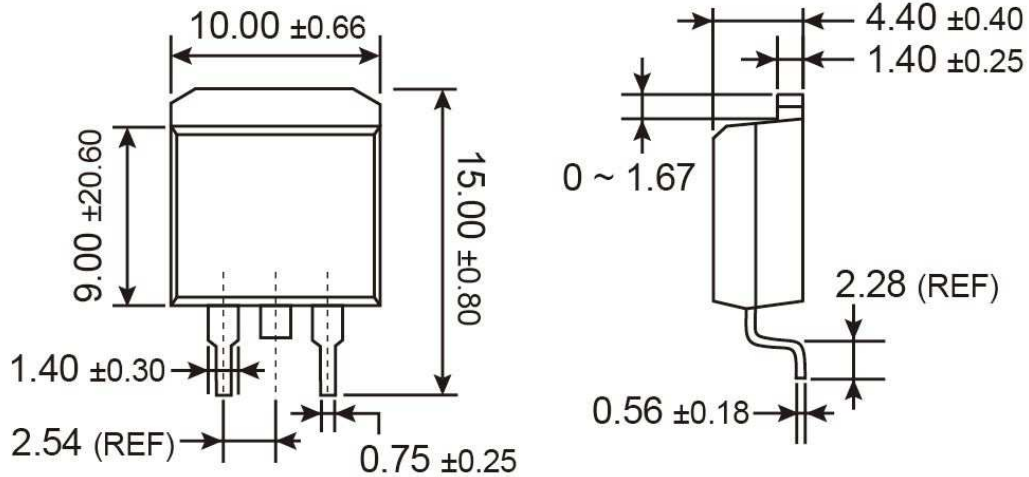


Figure 6. Reverse Bias SOA

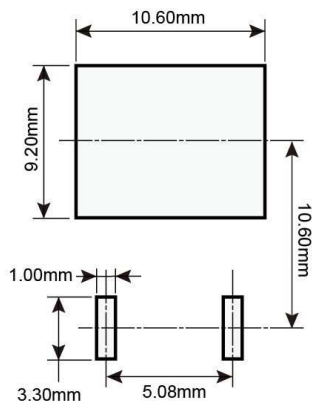


TO-263 Mechanical Drawing



Unit: Millimeters

Land Pattern Recommendation



Marking Diagram



Y = Year Code

M = Month Code for Halogen Free Product

O =Jan **P** =Feb **Q** =Mar **R** =Apr

S =May **T** =Jun **U** =Jul **V** =Aug

W =Sep **X** =Oct **Y** =Nov **Z** =Dec

L = Lot Code (1~9, A~Z)

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