

PRODUCT CHARACTERISTICS

BVCBO	700V
BVCEO	400V
HFE@5V1A	10-40
IC	1.5A

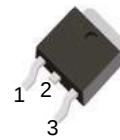
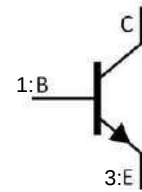
FEATURES

- * Inductive switching matrix 0.5 ~ 1.5 Amp, 25 and 100°C
Typical $t_c = 290\text{ns}$ @ 1A, 100°C.
- * 700V blocking capability

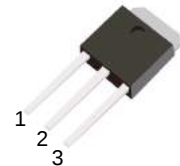
APPLICATIONS

- * Switching regulator's, inverters
- * Motor controls
- * Solenoid/Relay drivers
- * Deflection circuits

Symbol



TO-252



TO-251

ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	RST13003C	TO-251	70 pieces/Tube
N/A	RST13003D	TO-252	2500 pieces/Reel

ABSOLUTE MAXIMUM RATINGS

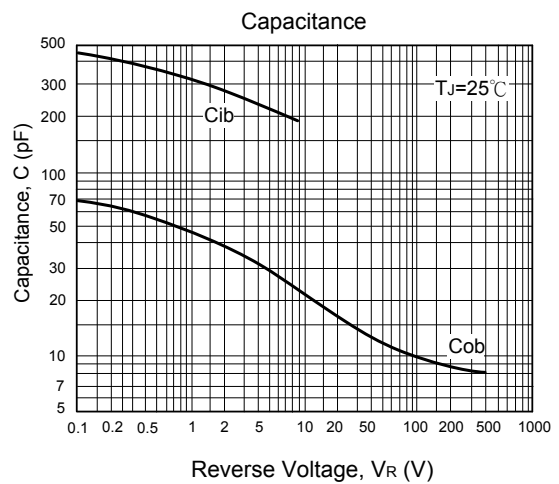
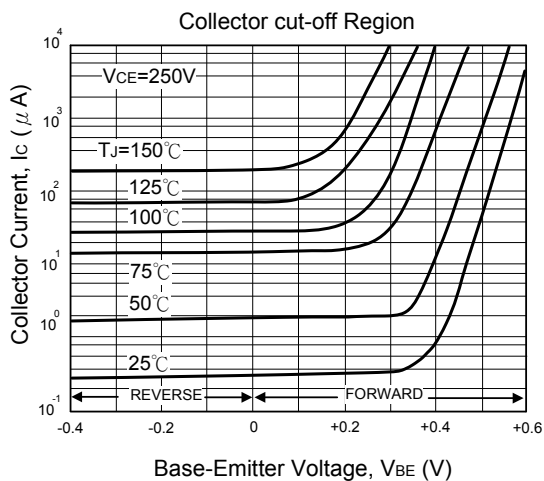
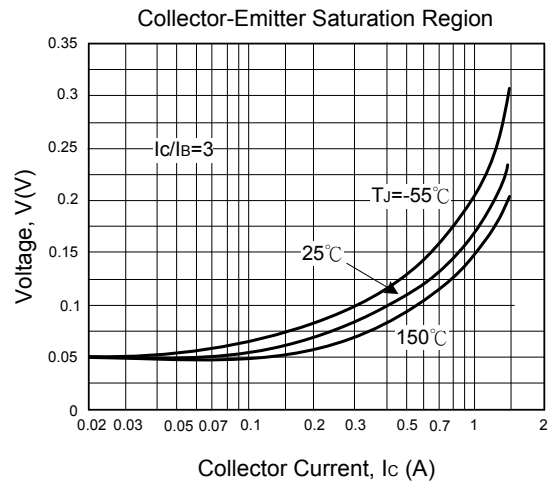
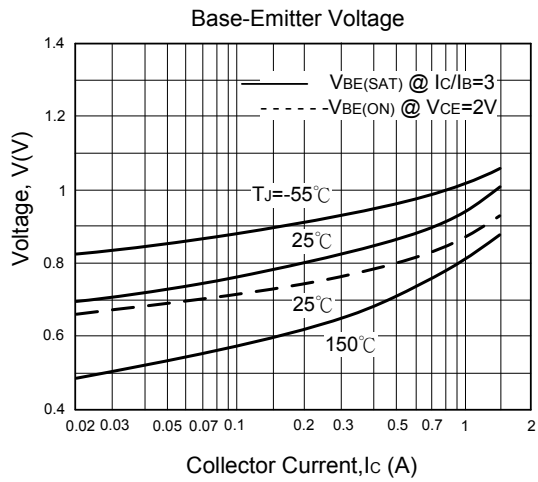
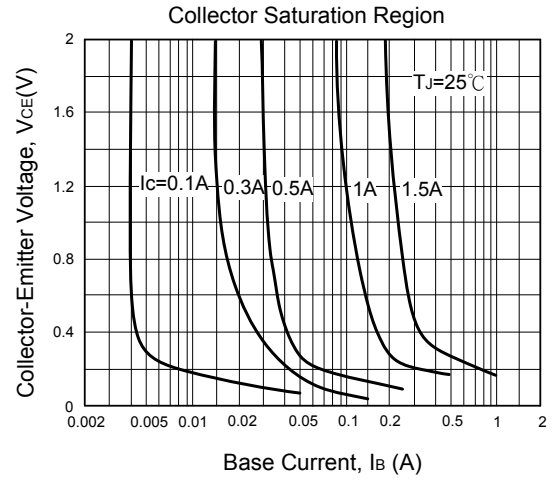
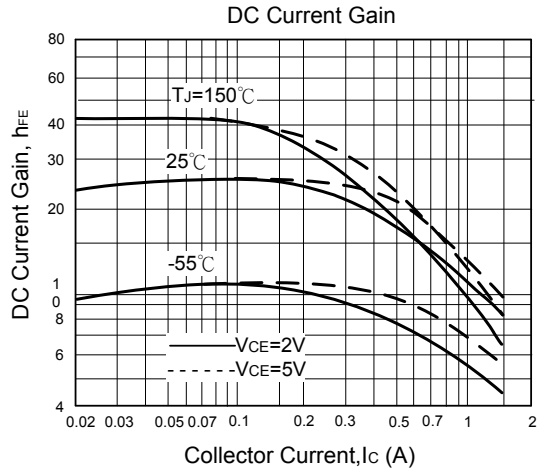
PARAMETER			SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage			$V_{CEO(SUS)}$	400	V
Collector-Emitter Voltage ($V_{BE}=0$)			V_{CES}	700	V
Collector-Base Voltage			V_{CBO}	700	V
Emitter Base Voltage			V_{EBO}	9	V
Collector Current	Continuous		I_C	1.5	A
Base Current	Continuous		I_B	0.75	A
Emitter Current	Continuous		I_E	2.25	A
Total Power Dissipation	$T_A=25^\circ\text{C}$	TO-251/TO-252	P_D	1.56	W
	$T_C=25^\circ\text{C}$	TO-251/TO-252		25	W
Junction Temperature			T_J	+150	$^\circ\text{C}$
Storage Temperature			T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

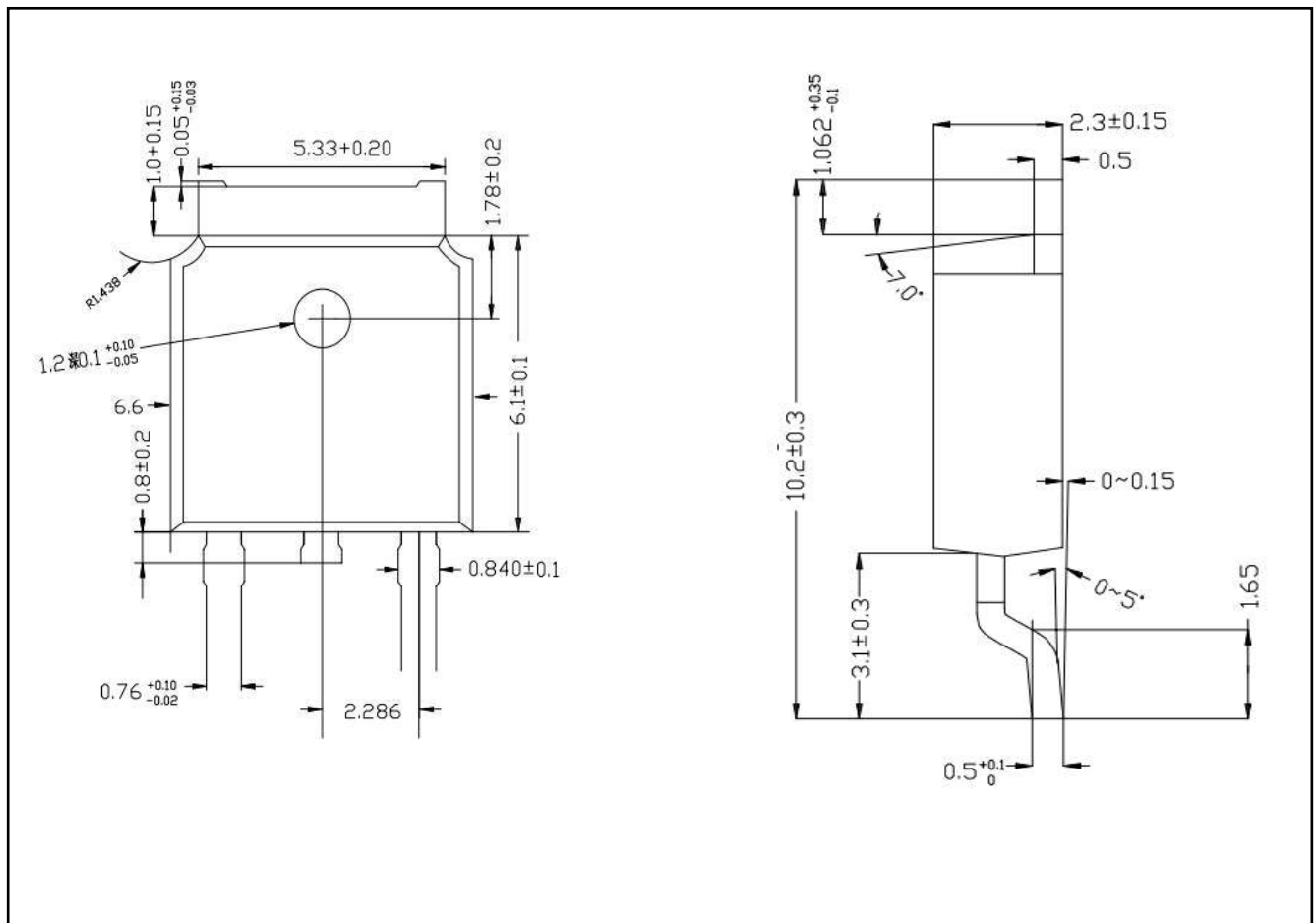
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise noted)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Collector-Emitter Sustaining Voltage		V _{CEO(SUS)}	I _C =10 mA , I _B =0	400	-	-	V
Collector Cutoff Current	T _C =25°C	I _{CEO}	V _{CEO} =Rated Value, V _{BE(OFF)} =1.5 V	-	-	1	mA
	T _C =100°C			-	-	5	
Emitter Cutoff Current		I _{EBO}	V _{EB} =9 V, I _C =0	-	-	1	mA
ON CHARACTERISTICS							
DC Current Gain		h _{FE1}	I _C =0.4A, V _{CE} =5V	14	-	32	
		h _{FE2}	I _C =1A, V _{CE} =5V	5	-	30	
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	I _C =0.5A, I _B =0.1A	-	-	0.5	V
			I _C =1A, I _B =0.25A	-	-	1	
			I _C =1.2A, I _B =0.4A	-	-	3	
			I _C =1A, I _B =0.25A, T _C =100°C	-	-	1	
Base-Emitter Saturation Voltage		V _{BE(SAT)}	I _C =0.5A, I _B =0.1A	-	-	1	V
			I _C =1A, I _B =0.25A	-	-	1.2	
			I _C =1A, I _B =0.25A, T _C =100°C	-	-	1.1	
DYNAMIC CHARACTERISTICS							
Current-Gain-Bandwidth Product		f _T	I _C =100mA, V _{CE} =10V, f=1MHz	4	10	-	MHz
Output Capacitance		C _{OB}	V _{CB} =10V, I _E =0, f=0.1MHz	-	21	-	pF
SWITCHING CHARACTERISTICS							
Delay Time		t _D	V _{CC} =125V, I _C =1A, I _{B1} =I _{B2} =0.2A, t _P =25μs, Duty Cycle≤1%	-	0.05	0.1	μs
Rise Time		t _R		-	0.5	1	μs
Storage Time		t _S		-	2	4	μs
Fall Time		t _F		-	0.4	0.7	μs
Inductive Load, Clamped							
Storage Time		t _{STG}	I _C =1A, V _{clamp} =300V, I _{B1} =0.2A, V _{BE(OFF)} =5Vdc, T _C =100°C	-	1.7	4	μs
Crossover Time		t _C		-	0.29	0.75	μs
Fall Time		t _F		-	0.15		μs

■ TYPICAL CHARACTERISTICS


■ TO-252-2L PACKAGE OUTLINE DIMENSIONS



■ TO-251-3L PACKAGE OUTLINE DIMENSIONS

