



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-3P Plastic-Encapsulate Transistors

2SC5287 TRANSISTOR (NPN)

FEATURES

·High Voltage Switching Transistor

MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	550	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	5	A
P_C	Collector Dissipation($T_a=25^{\circ}\text{C}$)	3	W
P_C	Collector Dissipation($T_c=25^{\circ}\text{C}$)	80	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-3P

1. BASE
2. COLLECTOR
3. EMITTER



1 2 3

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

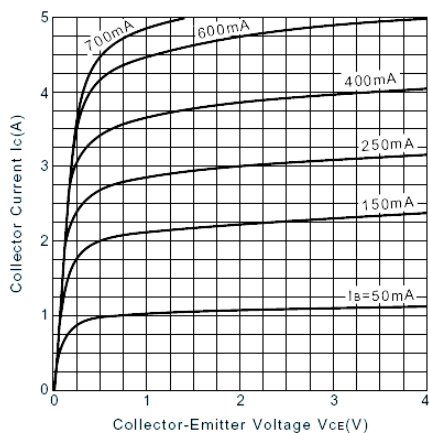
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	900			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10\text{mA}, I_B=0$	550			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=800\text{V}, I_E=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			100	μA
DC current gain	h_{FE}	$V_{CE}=4\text{V}, I_C=1.8\text{A}$	10		25	
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=1.8\text{A}, I_B=0.36\text{A}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=1.8\text{A}, I_B=0.36\text{A}$			1.2	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		50		pF
Transition frequency	f_T	$V_{CE}=12\text{V}, I_C=350\text{mA}$		6		MHz
Turn-on time	t_{on}	$V_{CC}=250\text{V}, I_C=1.8\text{A},$ $I_{B1}=0.27\text{A}, I_{B2}=-0.9\text{A},$ $V_{BB1}=10\text{V}, V_{BB2}=-5\text{V},$ $R_L=139\Omega$			0.7	μs
Storage time	t_s				4	μs
Fall time	t_f				0.5	μs

*PULSE TEST.

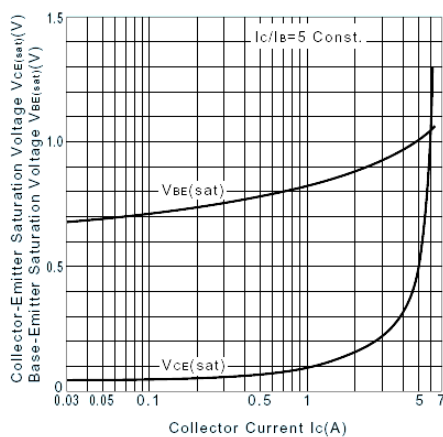
Typical Characteristics

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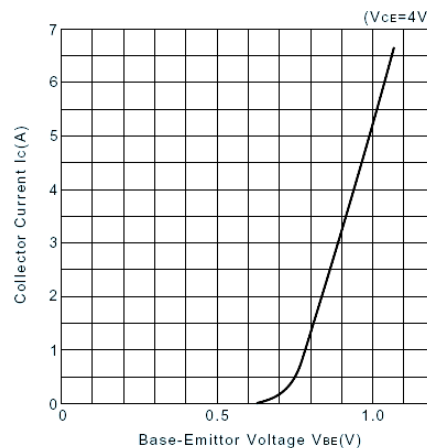
I_C - V_{CE} Characteristics (Typical)



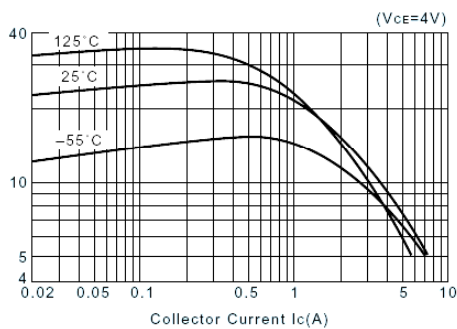
$V_{CE(sat)}$, $V_{BE(sat)}$ - I_C Temperature Characteristics (Typical)



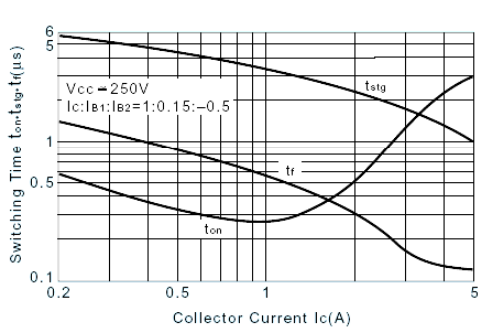
I_C - V_{BE} Temperature Characteristics (Typical)



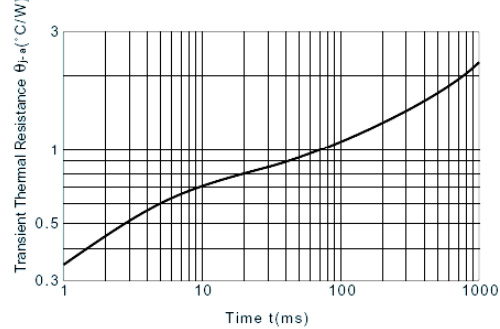
h_{FE} - I_C Characteristics (Typical)



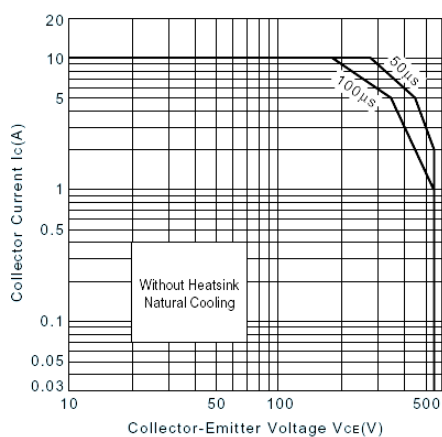
t_{on} , t_{stg} , t_r - I_C Characteristics (Typical)



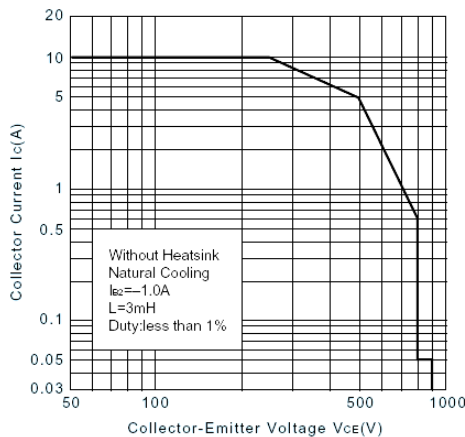
θ_{j-a} - t Characteristics



Safe Operating Area (Single Pulse)



Reverse Bias Safe Operating Area



P_C - T_a Derating

