2SC3211, 2SC3211A

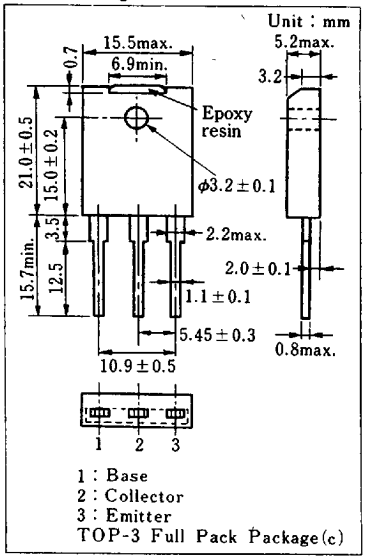
Silicon NPN Triple-Diffused Junction Mesa Type

High Breakdown Voltage, High Speed Switching

■ Features

- High speed switching
- High collector-base voltage (V_{CBO})
- Low collector-emitter saturation voltage ($V_{CE\ (sat)}$)
- "Full Pack" package for simplified mounting on a heat sink with one screw

■ Package Dimensions



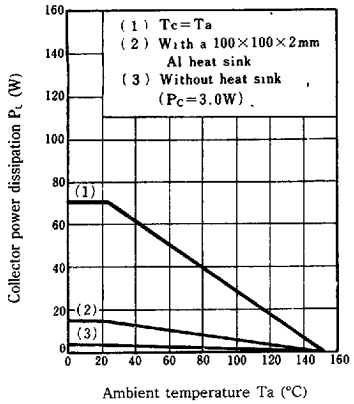
■ Absolute Maximum Ratings (Tc=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SC3211	V_{CBO}	800	V
	2SC3211A		900	
Collector-emitter voltage		V_{CEO}	500	V
Emitter-base voltage		V_{EBO}	8	V
Peak collector current		I_{CP}	10	A
Collector current		I_C	5	A
Base current		I_B	3	A
Collector power dissipation	Tc=25℃	P_C	70	W
	Ta=25℃		3	
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55 ~ +150	℃

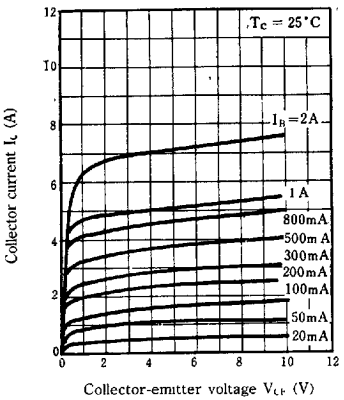
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	2S3211	I_{CBO}	V_{CB}=800 V, I_E=0			100	μA
	2S3211A		V_{CB}=900 V, I_E=0			100	
Emitter cutoff current		I_{EBO}	V_{EB}=5 V, I_C=0			100	μA
Collector-emitter voltage		$V_{CEO(sus)}$	I_C=0.2 A, L=25 mH	500			V
DC current gain		h_{FE1}	V_{CE}=5 V, I_C=0.1 A	15			
		h_{FE2}	V_{CE}=5 V, I_C=3 A	8			
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=3 A, I_B=0.6 A			1	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=3 A, I_B=0.6 A			1.5	V
Transition frequency		f_T	V_{CE}=10V, I_C=0.5A, f=1MHz		3		MHz
Turn-on time	2SC3211	t_{on}	I_C=3 A I_{B1}=0.6 A, I_{B2}=−0.6 A V_{CC}=200 V			1	μs
	2SC3211A					1.2	
Storage time		t_{stg}				3	μs
Collector current fall time	2SC3211	t_f				1	μs
	2SC3211A					1.2	

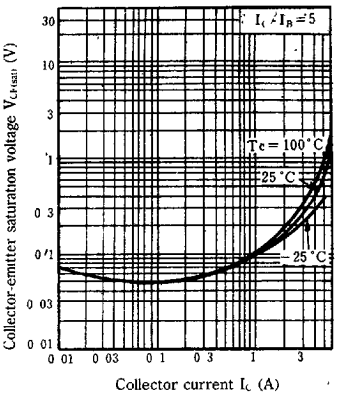
$P_C - Ta$



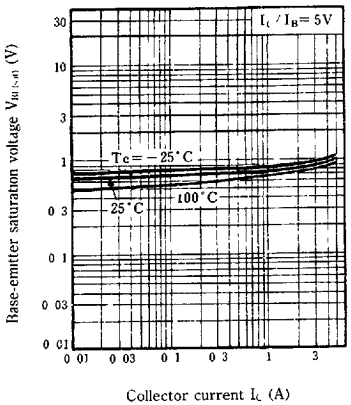
$I_C - V_{CE}$



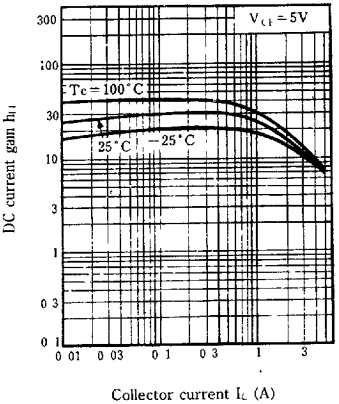
$V_{CE(sat)} - I_C$



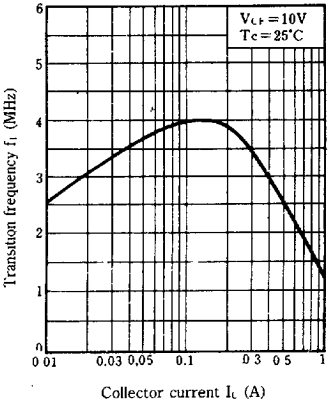
$V_{BE(sat)} - I_C$



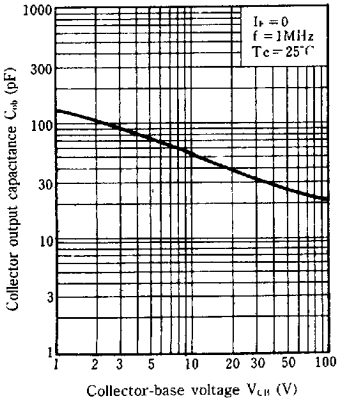
$h_{FE} - I_C$



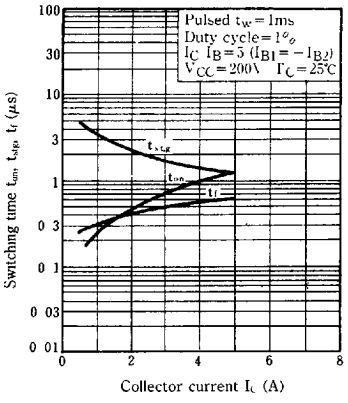
$f_T - I_C$



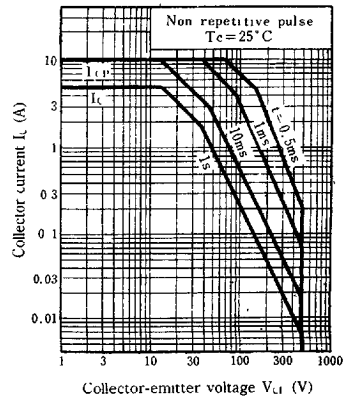
$C_{ob} - V_{CB}$



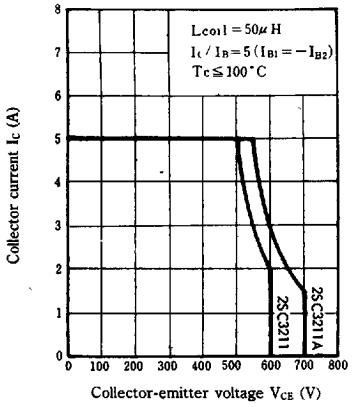
$t_{on}, t_{stg}, t_f - I_C$



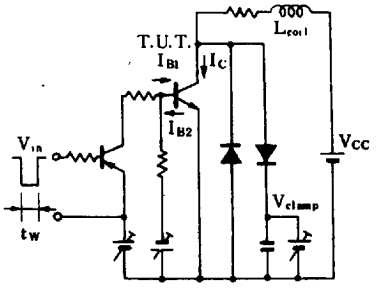
Safety operation area-forward bias (ASO)



Safety operation area-reverse bias (ASO)



Measurement circuit of reverse bias ASO



$R_{th(t)} - t$