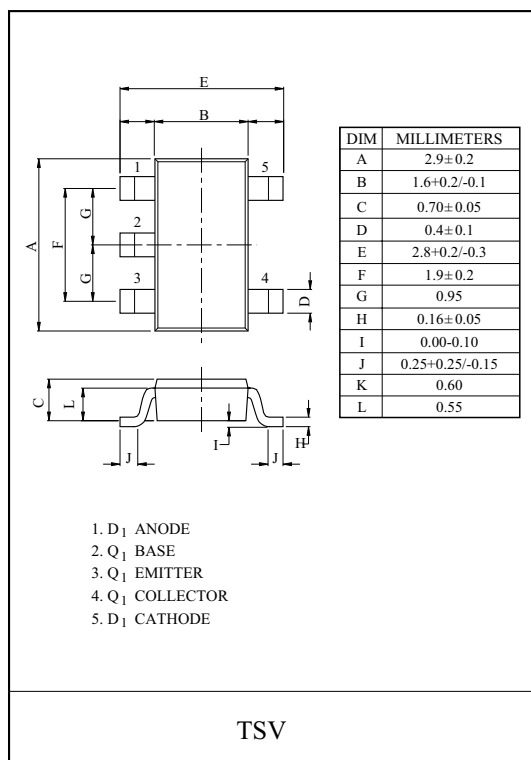
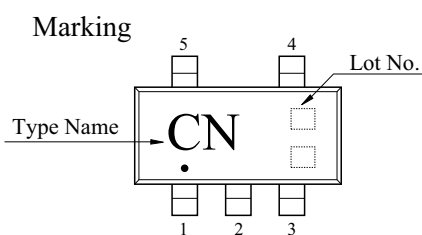
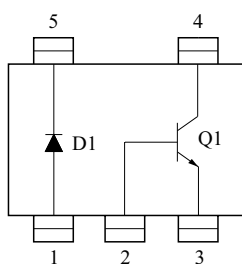


GENERAL PURPOSE APPLICATION.
ULTRA HIGH SPEED SWITCHING APPLICATION.

FEATURES

- Including two(TR, Diode) devices in TSV.
(Thin Super Mini type with 5 pin)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

EQUIVALENT CIRCUIT (TOP VIEW)



MAXIMUM RATINGS (Ta=25 °C)

TRANSISTOR Q₁

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	20	V
Collector-Emitter Voltage	V _{CEO}	20	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	1.5	A
	I _{CP}	3	A
Collector Power Dissipation	P _C *	0.9	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~125	°C

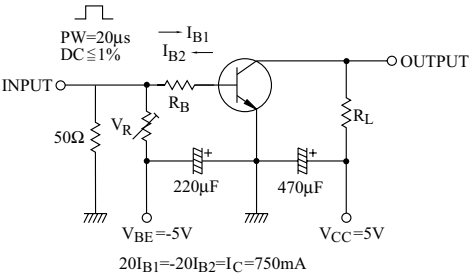
* Package mounted on a ceramic board (600mm² × 0.8mm)

DIODE D₁

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	V _{RRM}	25	V
Reverse Voltage	V _R	20	V
Average Forward Current	I _O	1.0	A
Non-Repetitive Peak Surge current	I _{FSM}	3	A
Junction Temperature	T _j	125	°C
Storage Temperature	T _{stg}	-55~125	°C

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ELECTRICAL CHARACTERISTICS (Ta=25 °C) TRANSISTOR Q₁

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I _{CBO}	V _{CB} =12V, I _E =0	-	-	0.1	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} =4V, I _C =0	-	-	0.1	μA
Collector-Base Breakdown Voltage		V _{(BR)CBO}	I _C =10 μA, I _E =0	20	-	-	V
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C =1mA, I _B =0	20	-	-	V
Emitter-Base Breakdown Voltage		V _{(BR)EBO}	I _E =10 μA, I _C =0	5	-	-	V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =750mA, I _B =15mA	-	130	200	mV
Base-Emitter Saturation Voltage		V _{BE(sat)}	I _C =750mA, I _B =15mA	-	0.85	1.2	V
DC Current Gain		h _{FE}	V _{CE} =2V, I _C =100mA	200	-	560	
Transition Frequency		f _T	V _{CE} =2V, I _C =300mA	-	210	-	MHz
Collector Output Capacitance		C _{ob}	V _{CB} =10V, f=1MHz	-	20	-	pF
Switching Time	Turn-On Time	t _{on}		-	40	-	nS
	Storage Time	t _{stg}		-	180	-	
	Fall Time	t _f		-	20	-	

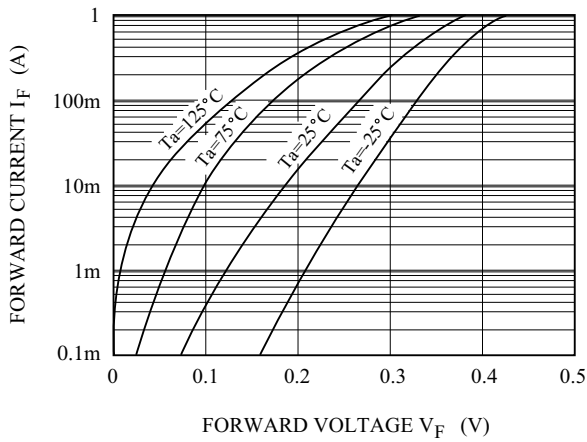
DIODE D₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Forward Voltage	V _F	I _F =1.0A	-	0.4	0.45	V
Reverse Current	I _R	V _R =20V	-	-	200	μA

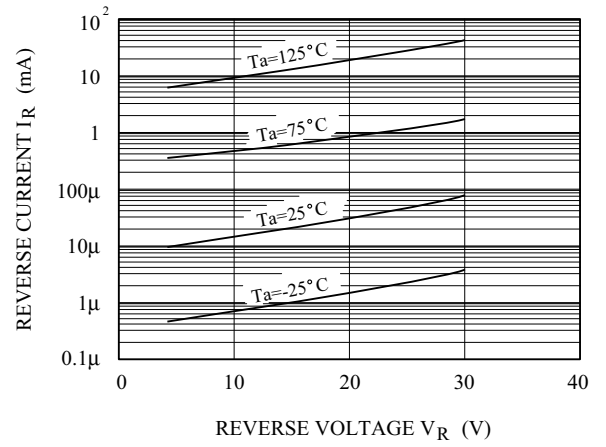
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D₁ (DIODE)

$I_F - V_F$

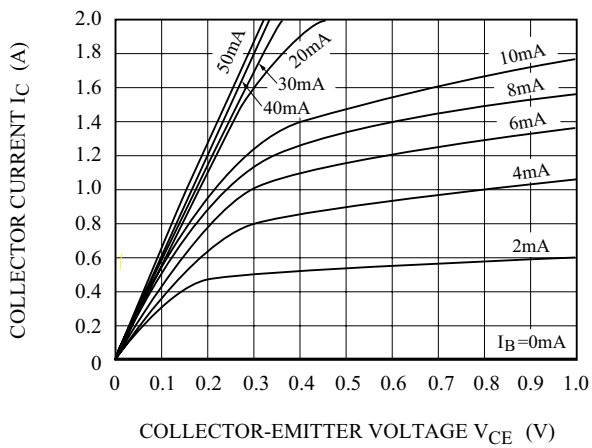


$I_R - V_R$

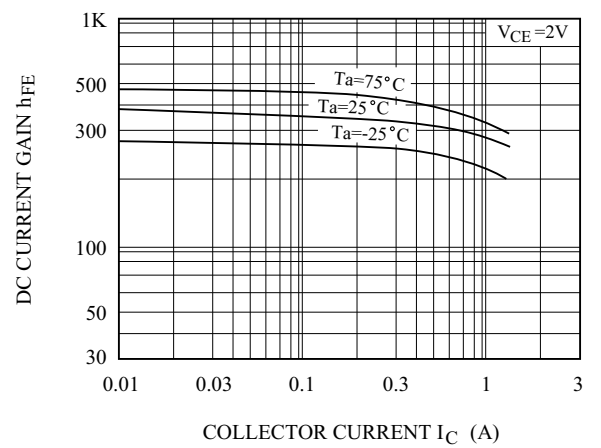


Q₁ (NPN TRANSISTOR)

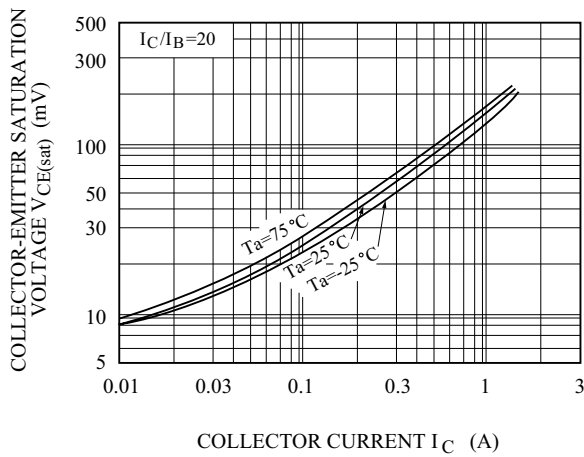
$I_C - V_{CE}$



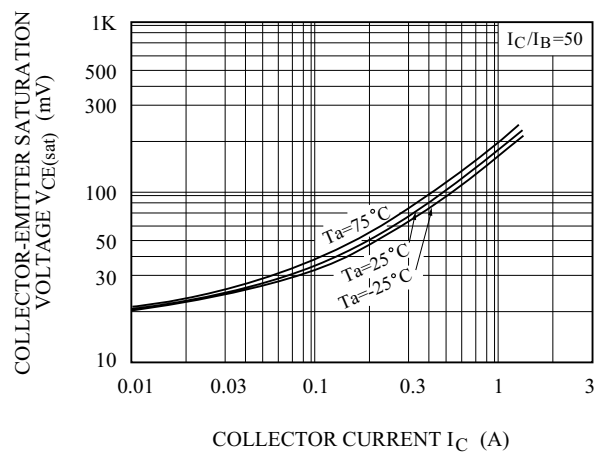
$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$V_{CE(sat)} - I_C$



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