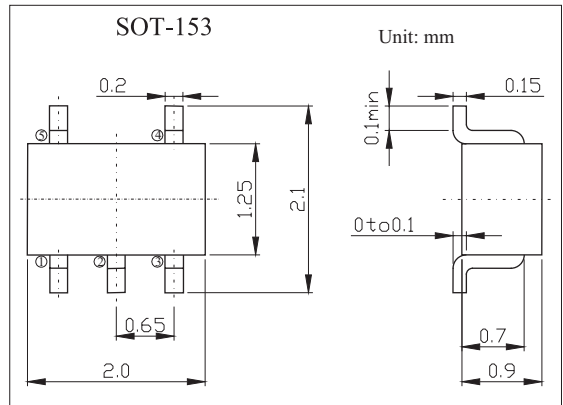
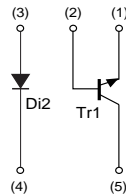


■ Features

- Tr1: Low  $V_{CE(sat)}$
- Di : Low  $V_f$
- Small package



■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$

Tr1			
Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	15	V
Collector-emitter voltage	$V_{CEO}$	12	V
Emitter-base voltage	$V_{EBO}$	6	V
Collector current	$I_c$	1.5	A
Power dissipation	$P_D$	200	mW
Operating and Storage and Temperature Range	$T_j, T_{STG}$	-40 to +125	$^\circ\text{C}$

Di2			
Parameter	Symbol	Rating	Unit
Peak reverse voltage	$V_{RM}$	25	V
Reverse voltage (DC)	$V_R$	20	V
Average rectified forward current	$I_F$	700	mA
Forward current surge peak (60HZ, $1^\infty$ )	$I_{FSM}$	3	A
Operating and Storage and Temperature Range	$T_j, T_{STG}$	-40 to +125	$^\circ\text{C}$

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Transistor TR1						
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0	15			V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0	12			V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>C</sub> = 10 μA, I <sub>C</sub> = 0	6			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> =15V, I <sub>E</sub> =0			100	nA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> =6V, I <sub>C</sub> =0			100	nA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> = 200mA	270		680	
collector-emitter saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> = 500 mA; I <sub>B</sub> = 25 mA			0.2	V
Transition frequency	f <sub>T</sub>	I <sub>C</sub> = 200 mA; V <sub>CE</sub> = 2 V; f = 100 MHz		400		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz		12		pF
Di2						
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =700mA			490	mV
Reverse current	I <sub>R</sub>	V <sub>R</sub> =20V			200	μA

\* pulse test: Pulse Width ≤300μs, Duty Cycle ≤ 2.0%.

■ Marking

Marking	L10
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■ Typical Characteristics

Tr1

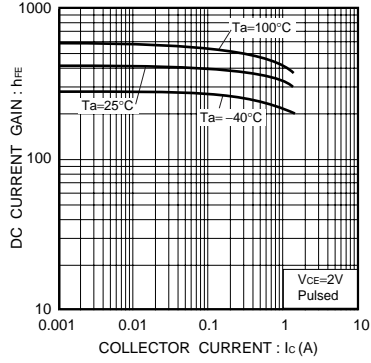


Fig.1 DC current gain vs. collector current

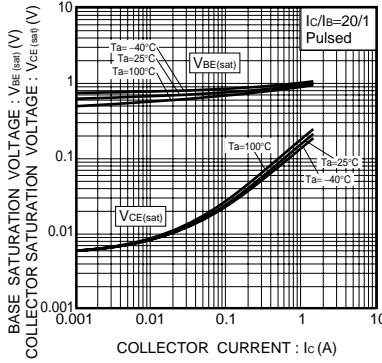


Fig.2 Collector-emitter saturation voltage vs. collector current

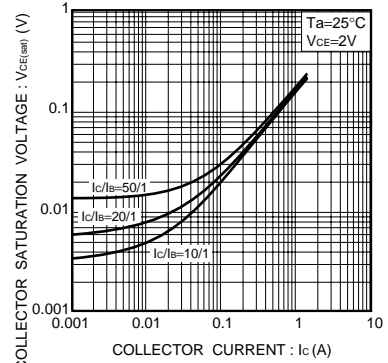


Fig.3 Collector-emitter saturation voltage vs. collector current

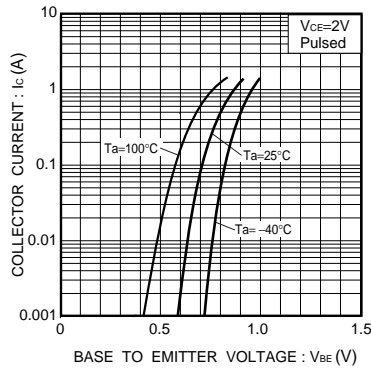


Fig.4 Grounded emitter propagation characteristics

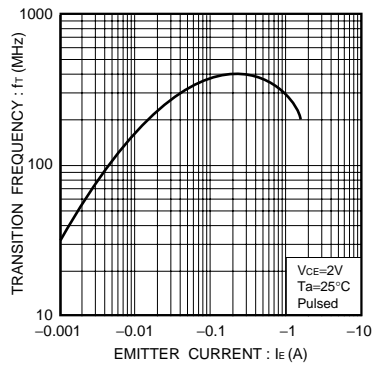


Fig.5 Gain bandwidth product vs. emitter current

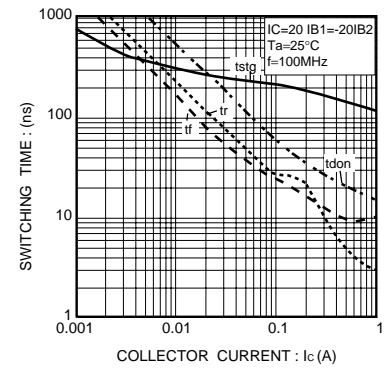


Fig.6 Switching time

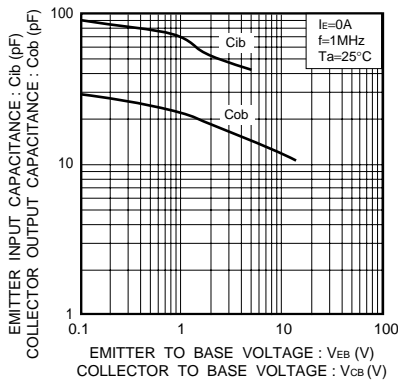


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

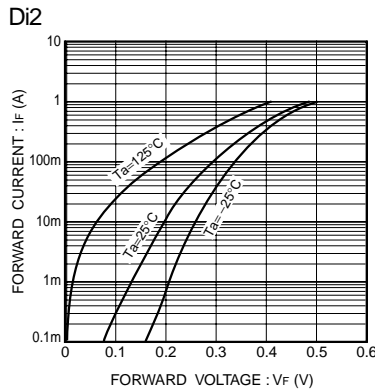


Fig.8 Forward characteristics

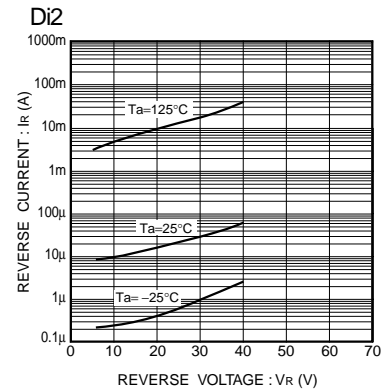


Fig.9 Reverse characteristics