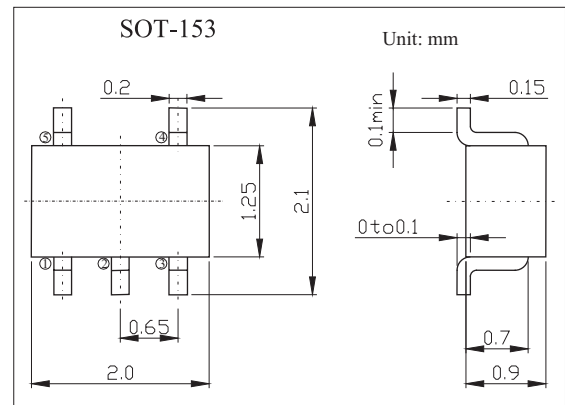
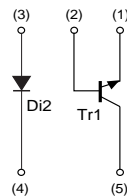


## General purpose transistor (isolated transistor and diode)

### FML10

#### ■ 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	$^\circ\text{C}$

## FML10

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Transistor TR1						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10 \mu A, I_E = 0$	15			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1 mA, I_B = 0$	12			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 10 \mu A, I_C = 0$	6			V
Collector cutoff current	$I_{CBO}$	$V_{CB}=15V, I_E=0$			100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB}=6V, I_C=0$			100	nA
DC current gain	$h_{FE}$	$V_{CE}=2V, I_C=200mA$	270		680	
collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 500 mA; I_B = 25 mA$			0.2	V
Transition frequency	$f_T$	$I_C = 200 mA; V_{CE} = 2 V; f = 100 MHz$		400		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0A, f=1MHz$		12		pF
Di2						
Forward voltage	$V_F$	$I_F=700mA$			490	mV
Reverse current	$I_R$	$V_R=20V$			200	$\mu A$

\* pulse test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$ .

## ■ Marking

Marking	L10
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# FML10

## Typical Characteristics

Tr1

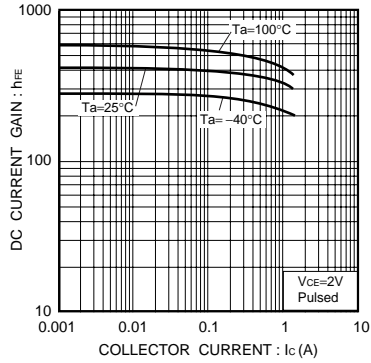


Fig.1 DC current gain vs. collector current

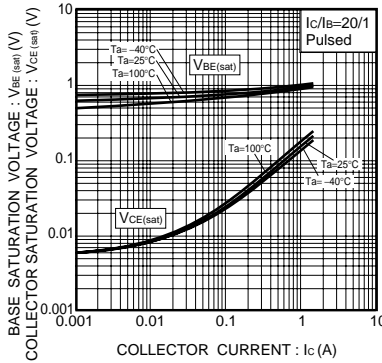


Fig.2 Collector-emitter saturation voltage vs. collector current

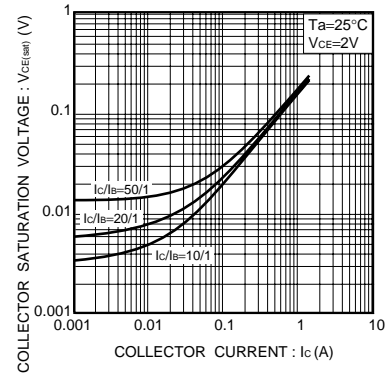


Fig.3 Collector-emitter saturation voltage vs. collector current

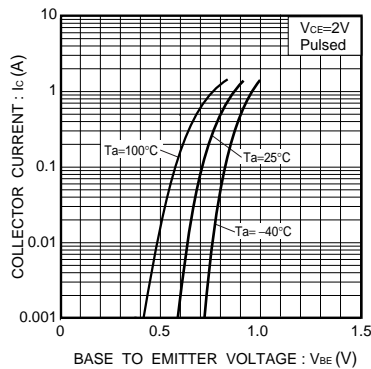


Fig.4 Grounded emitter propagation characteristics

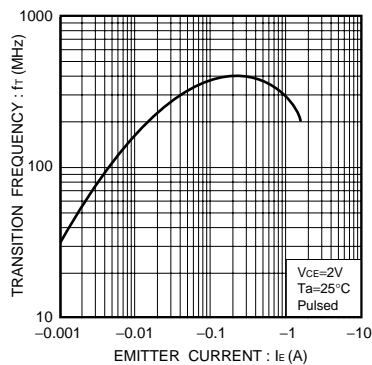


Fig.5 Gain bandwidth product vs. emitter current

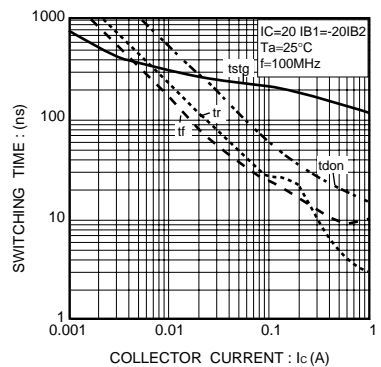


Fig.6 Switching time

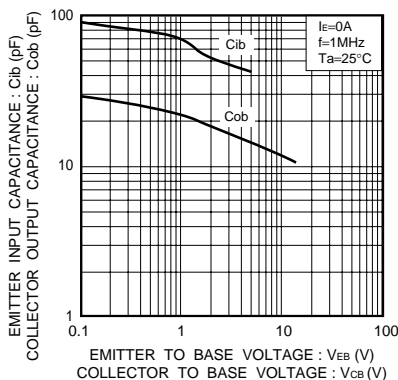


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

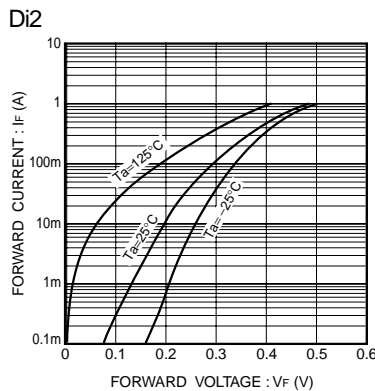


Fig.8 Forward characteristics

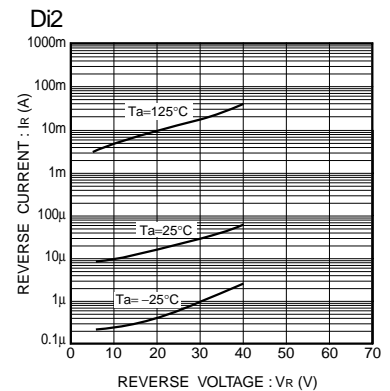


Fig.9 Reverse characteristics