



IS281 (Compact Range)

ELECTRICAL CHARACTERISTICS

Ambient Temperature = 25°C unless otherwise specified

INPUT

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$		1.20	1.40	V
Reverse Leakage	I_R	$V_R = 4\text{V}$			10	μA
Input Capacitance	C_{in}	$V = 0\text{V}, f = 1 \text{ KHz}$		30	250	pF

OUTPUT

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector—Emitter breakdown Voltage	BV_{CEO}	$I_C = 100\mu\text{A}$	80			V
Emitter—Collector breakdown Voltage	BV_{ECO}	$I_E = 100\mu\text{A}$	7			V
Collector dark Current	I_{CEO}	$V_{CE} = 20\text{V}, I_F = 0\text{mA}$			100	nA

COUPLED

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Current transfer ratio	CTR	$I_F = 5\text{mA}, V_{CE} = 5\text{V}$	50		600	%
		Rank A	80		160	
		B	130		260	
		C	200		400	
		D	300		600	
		E	100		200	
		F	150		300	
		GR	100		300	
		GB	100		600	
Collector—Emitter saturation Voltage	V_{CEsat}	$I_F = 10\text{mA}, I_C = 1\text{mA}$		0.1	0.2	V
Input to output isolation Voltage	V_{ISO}	See note 1	3750			V_{RMS}
Output rise time	t_r	$V_{ce} = 2\text{V}, I_C = 2\text{mA}, R_L = 100\Omega$		5.0	18	μS
Output fall time	t_f	$V_{ce} = 2\text{V}, I_C = 2\text{mA}, R_L = 100\Omega$		3.0	18	μS
Cut off frequency	f_c	$I_F = 10\text{mA}, V_{CE} = 5\text{V}, R_L = 100\Omega$		100		kHz
Coupling Capacitance	C_k	$f = 1 \text{ MHz}$		0.3		pF

Note 1 Measured with input leads shorted together and output leads shorted together



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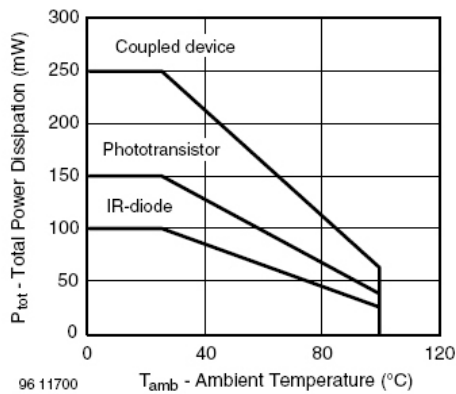


Figure 4. Total Power Dissipation vs. Ambient Temperature

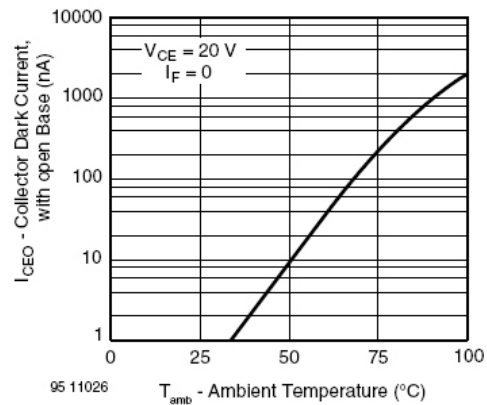


Figure 7. Collector Dark Current vs. Ambient Temperature

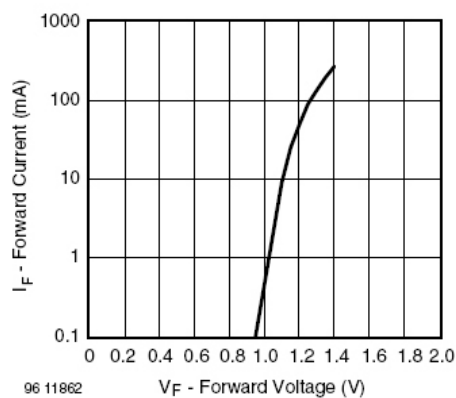


Figure 5. Forward Current vs. Forward Voltage

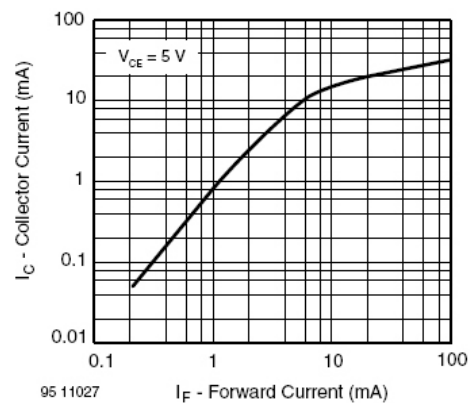


Figure 8. Collector Current vs. Forward Current

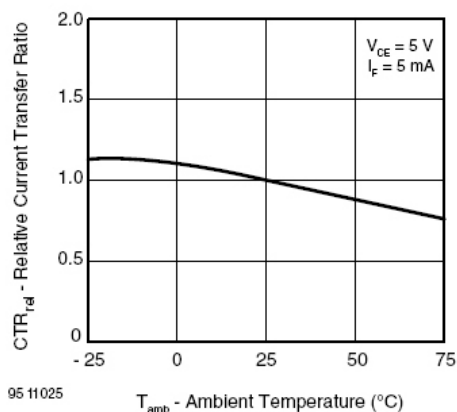


Figure 6. Relative Current Transfer Ratio vs. Ambient Temperature

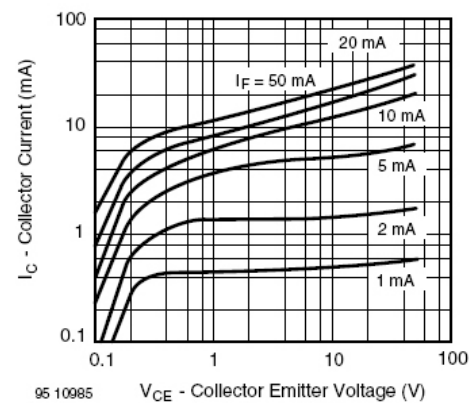


Figure 9. Collector Current vs. Collector Emitter Voltage



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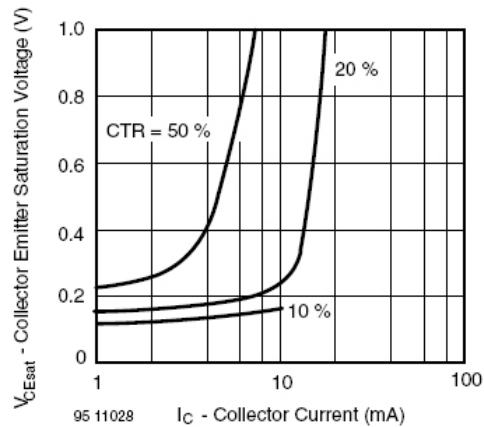


Figure 10. Collector Emitter Saturation Voltage vs. Collector Current

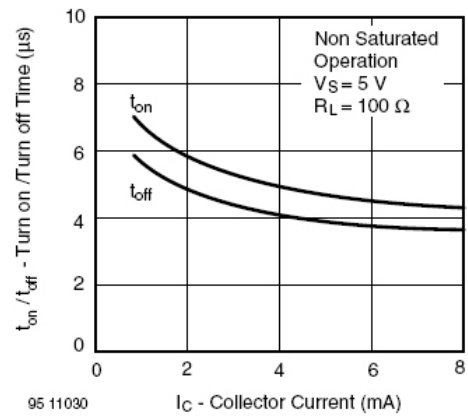


Figure 13. Turn on/off Time vs. Collector Current

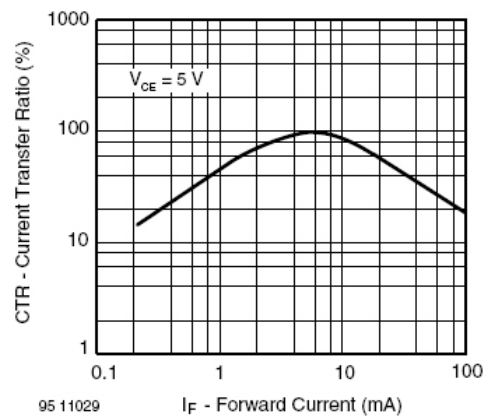


Figure 11. Current Transfer Ratio vs. Forward Current

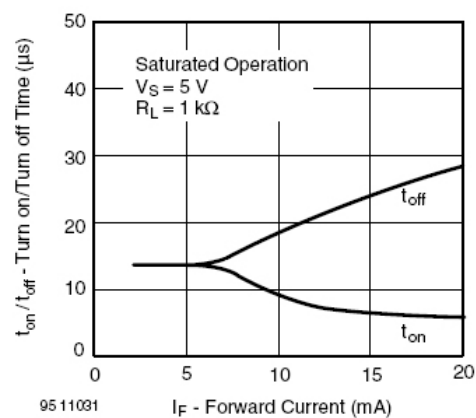


Figure 12. Turn on/off Time vs. Forward Current