

Optoisolator

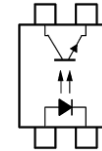
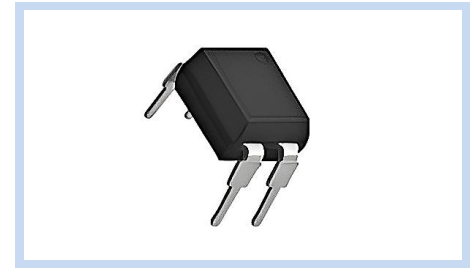
1CH DC BJT DIP-4

OPI137DCB35D4

MERITEK

FEATURE

- Current Transfer Ratio: 50%~600%
- Isolation Voltage: 3750 Vrms
- High CTR with Low Input Current
- Low Coupling Capacitance
- Application: Programmable Controller, Facsimiles, Telephones
- In Accordance with Safety Class UL1577 Standard



MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Input Forward Current		I_F	50	mA
Input Peak Forward Current		I_{FP}	1	A
Input Reverse Voltage		V_R	5	V
Output Collector Current		I_C	50	mA
Output Power Dissipation		P_C	150	mW
Output Collector-Emitter Voltage	$I_C=1\text{mA}, I_B=0\text{A}$	V_{CEO}	35	V
Output Emitter-Collector Voltage	$I_E=100\mu\text{A}, I_B=0\text{A}$	V_{ECO}	6	V
Isolation Voltage	AC for 60sec, RH60%	V_{ISO}	3750	V_{RMS}
Power Dissipation		P_T	200	mW
Operating Temperature Range		T_{Opr}	-55~+110	°C
Storage Temperature Range		T_{Stg}	-55~+125	°C
Soldering Temperature	For 10 sec	T_{SOL}	260	°C

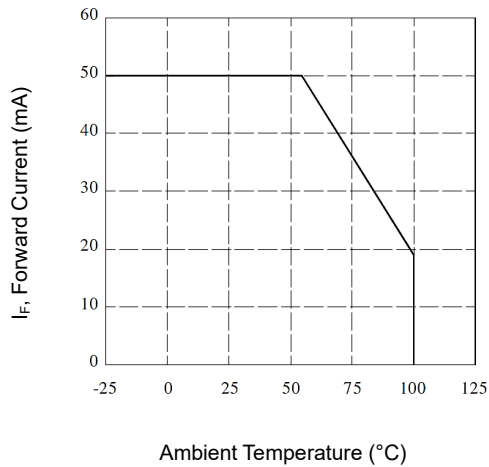
ELECTRICAL CHARACTERISTICS

Input Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
Forward Voltage		I _F =20mA	V _F	--	1.2	1.4	V
Reverse Current		V _R =5V	I _R	--	--	10	μA
Input Capacitance		V=0, f=1MHz	C _{in}	--	30	--	pF
Output Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
Collector-Emitter Dark Current		V _{CE} =10V, I _F =0mA	I _{CEO}	--	--	100	nA
Collector-Emitter Breakdown Voltage		I _C =0.1mA	BV _{CEO}	35	--	--	V
Emitter-Collector Breakdown Voltage		I _E =0.1mA	BV _{ECO}	5	--	--	V
Coupled Characteristics		Conditions	Symbol	Min	Typ.	Max	Unit
Current Transfer Ratio	OPI137DCB35D4	I _F =5mA, V _{CE} =5V	CTR	50	--	600	%
	OPI137DCB35D4A			80	--	160	
	OPI137DCB35D4B			130	--	260	
	OPI137DCB35D4C			200	--	400	
	OPI137DCB35D4D			300	--	600	
Collector-Emitter Saturation Voltage		I _F =20mA, I _C =1mA	V _{CE(SAT)}	--	0.1	0.4	V
Isolation Resistance		V _{IO} =500V _{DC}	R _{ISO}	5x10 ¹⁰	--	--	Ω
Isolation Capacitance		V=0, f=1MHz	C _{ISO}	--	1.0	--	pF
Cut-Off Frequency		V _{CE} =5V, I _C =2mA, R _L =100Ω	f _c	--	80	--	kHz
Rise Time			t _r	--	3	18	μs
Fall Time			t _f	--	3	18	

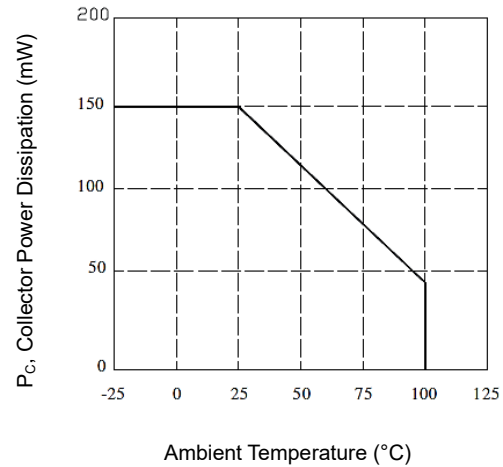
Note: $T_A=25^\circ\text{C}$ unless otherwise noted.

CHARACTERISTIC CURVES

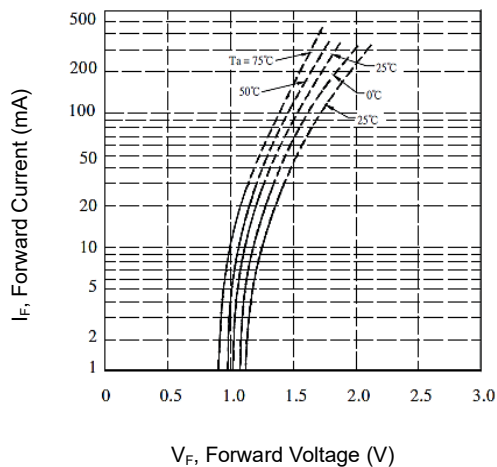
Forward Current vs. Temperature



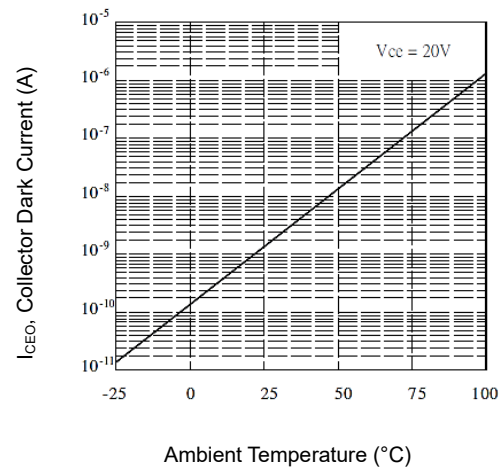
Collector Power Dissipation vs. Temperature



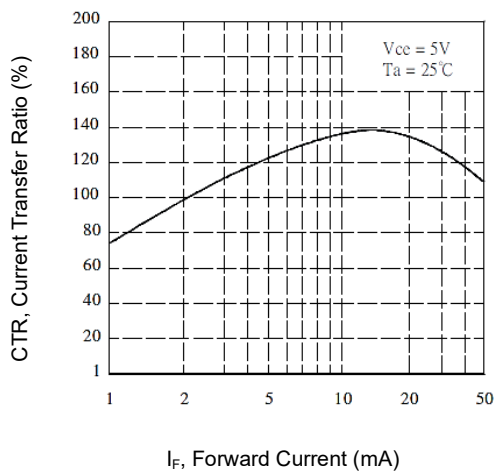
Forward Current vs. Forward Voltage



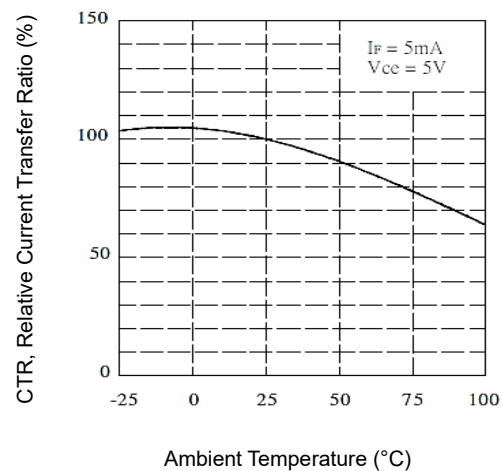
Collector Dark Current vs. Temperature



Current Transfer Ratio vs. Forward Current

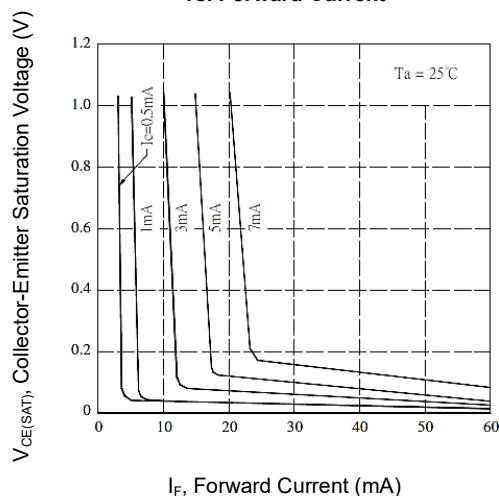


Relative Current Transfer Ratio vs. Temperature

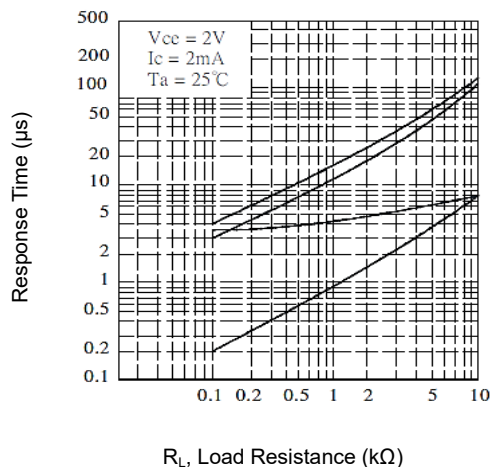


CHARACTERISTIC CURVES

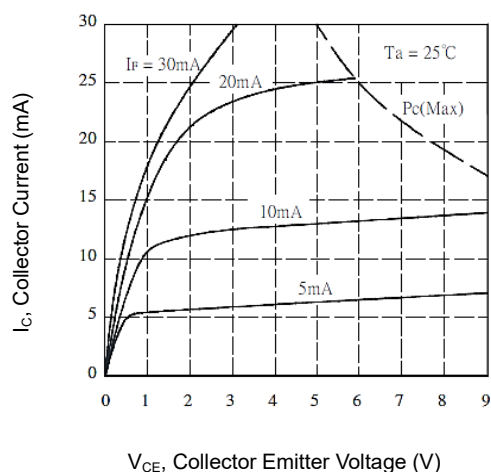
Collector-Emitter Saturation Voltage
vs. Forward Current



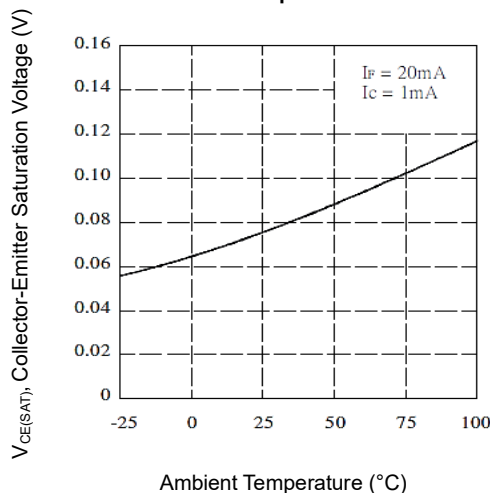
Response Time vs. Load Resistance



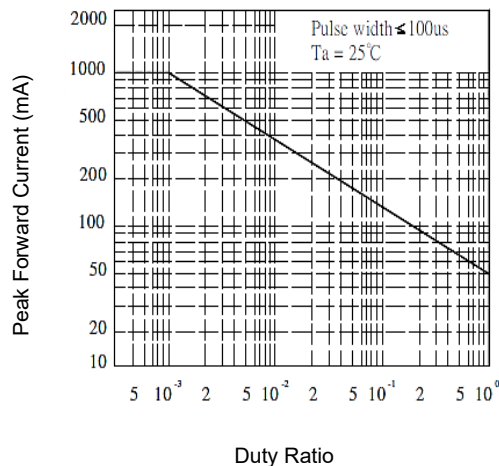
Collector Current vs. Collector Emitter Voltage



Collector-Emitter Saturation Voltage
vs. Temperature



Peak Forward Current vs Duty Ratio



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OPI137DCB35D4

MERITEK

DIMENSIONS

Item	Min (mm)	Max (mm)
A	6.70	7.10
A1	3.20	3.60
A2	3.70	4.10
b	0.27	0.67
c	0.25	
D	4.50	4.90
E	6.20	6.60
E1	7.42	7.82
e	2.54	
X	2.54	
Y	7.62	

Note:

1.LED Anode; 2.LED Cathode; 3.Emitter; 4.Collector

