

Optoisolator

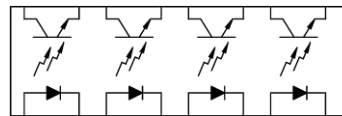
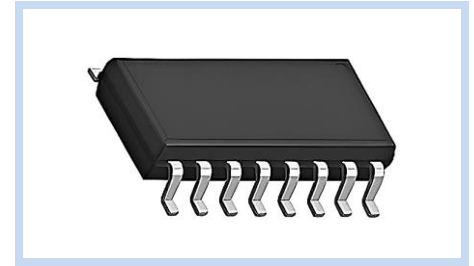
4CH DC BJT SSOP-16

OPI425DCB80SS16

MERITEK

FEATURE

- Current Transfer Ratio: 100%~400%
- Isolation Voltage: 2500 Vrms
- High CTR with Low Input Current
- Low Coupling Capacitance
- Application: Programmable Controller, Communication Equipment
- In Accordance with Safety Class UL1577 Standard



MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Input Forward Current		I_F	50	mA
Input Peak Forward Current	Pulse width $\leq 1\mu s$, Duty 0.001	I_{FP}	1	A
Input Reverse Voltage		V_R	6	V
Input Power Dissipation		P_I	70	mW
Output Collector Current		I_C	50	mA
Output Power Dissipation		P_C	150	mW
Output Collector-Emitter Voltage		V_{CEO}	80	V
Output Emitter-Collector Voltage		V_{ECO}	7	V
Isolation Voltage	AC for 60sec, RH40~60%	V_{ISO}	2500	V_{RMS}
Total Power Dissipation		P_T	200	mW
Operating Temperature Range		T_{Opr}	-55~+110	$^{\circ}C$
Storage Temperature Range		T_{Stg}	-55~+125	$^{\circ}C$
Soldering Temperature	For 10 sec	T_{SOL}	260	$^{\circ}C$

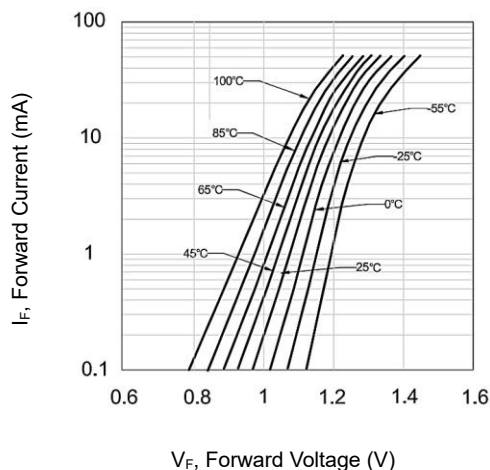
ELECTRICAL CHARACTERISTICS

Input Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Forward Voltage	I _F =20mA	V _F	--	1.2	1.4	V
Reverse Current	V _R =4V	I _R	--	--	10	μA
Input Capacitance	V=0, f=1KHz	C _{in}	--	30	250	pF
Output Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Collector-Emitter Dark Current	V _{CE} =20V, I _F =0mA	I _{CEO}	--	--	100	nA
Collector-Emitter Breakdown Voltage	I _C =0.1mA, I _F =0mA	BV _{CEO}	80	--	--	V
Emitter-Collector Breakdown Voltage	I _E =10μA, I _F =0mA	BV _{ECO}	7	--	--	V
Coupled Characteristics	Conditions	Symbol	Min	Typ.	Max	Unit
Current Transfer Ratio	I _F =1mA, V _{CE} =5V	CTR	100	--	400	%
Collector-Emitter Saturation Voltage	I _F =1mA, I _C =0.2mA	V _{CE(SAT)}	--	--	0.3	V
Isolation Resistance	V _{IO} =500V _{DC} , RH40~60%	R _{ISO}	5x10 ¹⁰	1x10 ¹¹	--	Ω
Isolation Capacitance	V=0V, f=1MHz	C _{ISO}	--	0.3	1.0	pF
Rise Time	V _{CE} =2V, I _C =2mA, R _L =100Ω	t _r	--	5	18	μs
Fall Time		t _f	--	5	18	

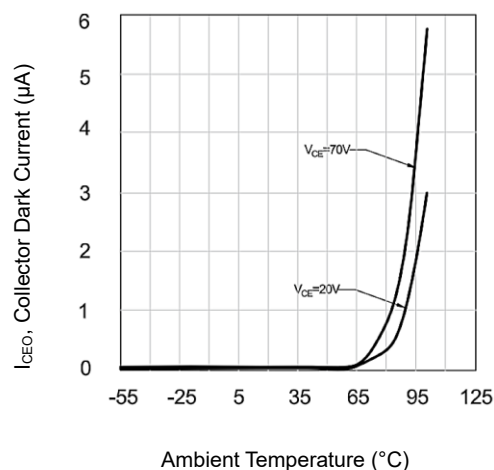
Note: $T_A=25^{\circ}C$ unless otherwise noted.

CHARACTERISTIC CURVES

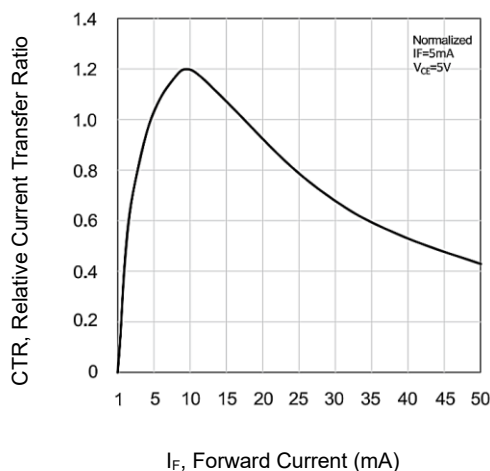
Forward Current vs. Forward Voltage



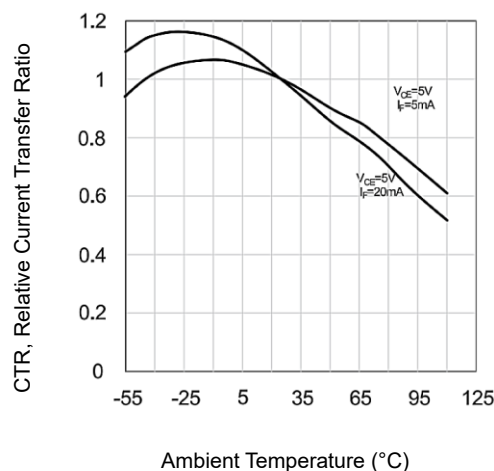
Collector Dark Current vs. Temperature



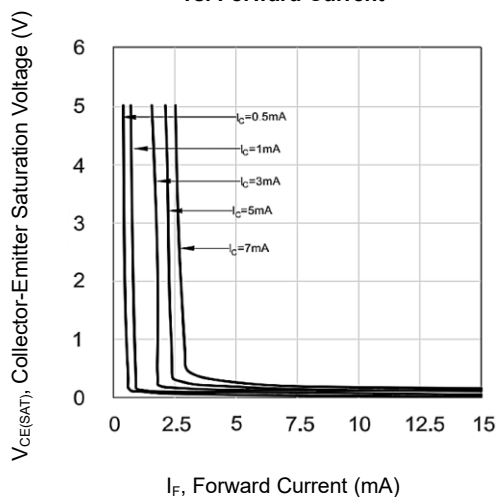
Current Transfer Ratio vs. Forward Current



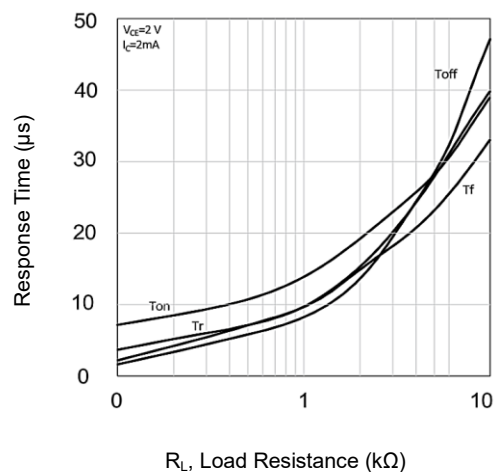
Relative Current Transfer Ratio vs Temperature



Collector-Emitter Saturation Voltage vs. Forward Current

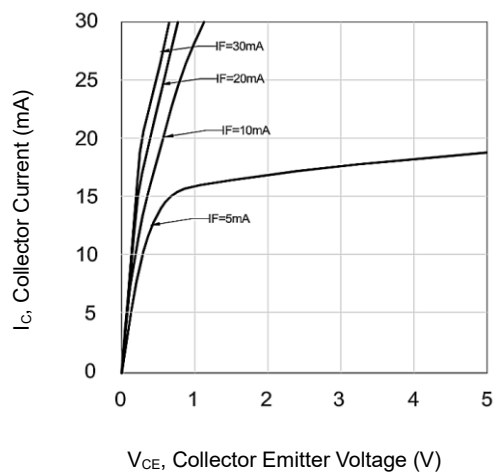


Response Time vs. Load Resistance

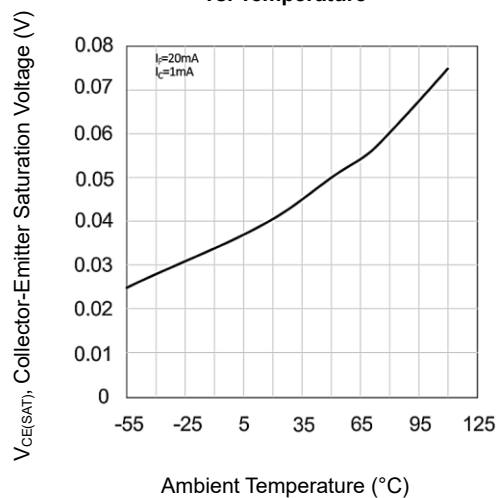


CHARACTERISTIC CURVES

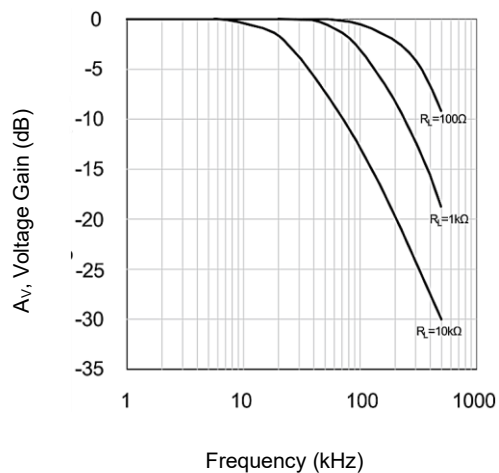
Collector Current vs. Collector Emitter Voltage



Collector-Emitter Saturation Voltage vs. Temperature



Frequency Response



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DIMENSIONS

Item	Min (mm)	Max (mm)
A1	0.00	0.20
A2	2.00	2.20
b	0.30	0.50
c	0.10	0.30
D	10.19	10.39
E	6.90	7.10
E1	4.17	4.37
e	1.15	1.39
L1	5.20	5.40
X	0.70	0.90
X1	1.17	1.37
Y	1.30	1.50
Y1	6.10	6.30

Note:

1,3,5,7.Anode; 2,4,6,8.Cathode; 9,11,13,15.Emitter; 10,12,14,16.Collector

