

UMG4N / UMG7N / UMH4N / UMH8N / FMG4A / FMG7A / IMH4A / IMH8A

1) Two DTC114T chips in a UMT or SMT package.

The diagrams show the internal circuitry of different optoisolators:

- UMG4N**: A simple common-emitter configuration with a resistor R_1 in the collector circuit.
- UMG7N**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.
- UMH4N**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.
- UMH8N**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.
- FMG4A**: A common-emitter configuration with a resistor R_1 in the collector circuit.
- FMG7A**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.
- IMH4A**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.
- IMH8A**: A common-emitter configuration with a resistor R_1 in the collector circuit and a resistor R_1 in the emitter circuit.

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	$I_C=50\ \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E=50\ \mu A$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB}=50V$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C/I_E=10mA/1mA$
DC current transfer ratio	h_{FE}	100	250	600	—	$V_{CE}=5V, I_C=1mA$
Transition frequency	f_T	—	250	—	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *
Input resistance	R_i	7	10	13	$k\Omega$	—

Parameter		Symbol	Limits	Unit	
Collector-base voltage		V_{CB0}	50	V	
Collector-emitter voltage		V_{CE0}	50	V	
Emitter-base voltage		V_{EB0}	5	V	
Collector current		I_C	100	mA	
Power dissipation	UMG4N,UMG7N,UMH4N	P_d	150 (TOTAL)	mW	*1 *2
	FMG4A,FMG7A,IMH4A,IMH8A		300 (TOTAL)		
Junction temperature		T_j	150	°C	
Storage temperature		T_{stg}	-55~+150	°C	

●Package, marking, and packaging specifications

[illegible]