

VTP PROCESS

FAST RESPONSE HIGH DARK RESISTANCE

FEATURES

- Visible to enhanced IR spectral range.
- Integral visible rejection filters available
- Response @ 940nm, 0.55 A/W, typ.
- 1-2% linearity over 7 to 9 decades.
- Low dark currents.
- High shunt resistance.
- High reverse voltage rating.
- Low capacitance.

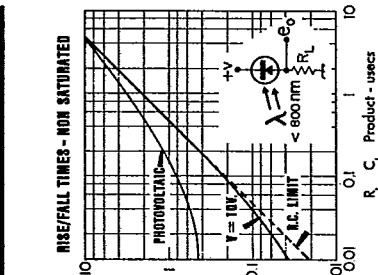
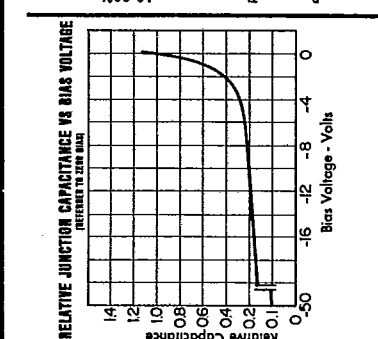
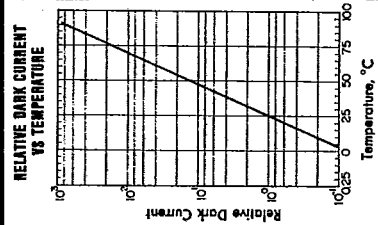
PRODUCT DESCRIPTION

This series of P on N silicon diodes is primarily intended for use with reverse bias but may be used in the photovoltaic mode. These diodes have excellent response in the IR region and are well matched to IR LEDs. Due to the low capacitance, these devices may be used with high load resistance and still have a fast response time. The low dark current under bias minimize DC offsets in transimpedance connected op-amp circuits.

GENERAL CHARACTERISTICS

Data Typical Except as Noted

PARAMETER	SYM.	WITH VISIBLE REJECTION FILTER	WITH GLASS OR EPOXY WINDOW	UNITS
OPEN CIRCUIT VOLTAGE 100ic 2850K SOURCE	V _{oc}	300	350	mV
BREAKDOWN VOLTAGE	V _{BR}	140	140	V
SPECTRAL RESPONSE - PEAK	λ _{pk}	925	925	nm
APPLICATION RANGE	λ _{range}	725-1150	400-1150	nm
RADIOMETRIC SENSITIVITY@PEAK	S _{pk}	0.50	0.55	A/W
TEMPERATURE COEFFICIENT				%/°C
SHORT CIRCUIT CURRENT 2850K SOURCE	TCIC	+0.24	+0.20	mV/°C
OPEN CIRCUIT VOLTAGE 2850K SOURCE	TCOCV	-2.0	-2.0	mV/°C
DARK CURRENT	TCID	+11.0	+11.0	%/°C
ATTENUATION FACTOR FOR WAVELENGTH SHORTER THAN 700nm		100	—	—

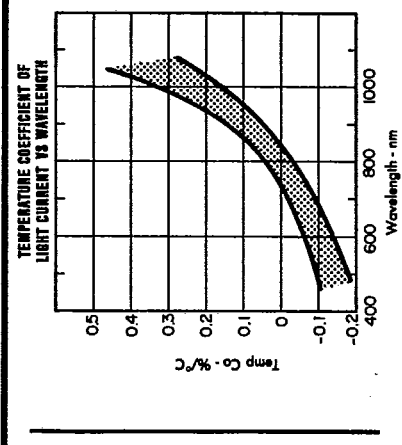
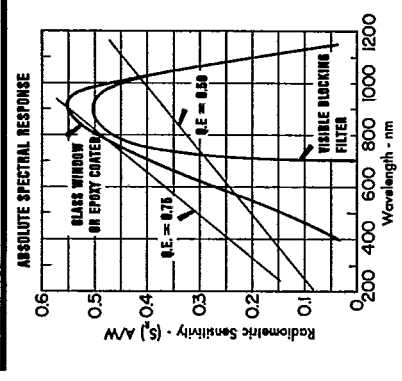


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ELECTRO-OPTICAL CHARACTERISTICS (at 25°C)

PART NO.	Responsivity R _E		Dark Current I _D	Dark Resistance R _D	Breakdown Voltage V _{BR}	Junction Capacitance C _J	Active Area A	Angular Response θ	CASE STYLE				
	μA/(W/cm²)	mA/W											
VTP2370L	—	0.015	0.24	0.36	35	10	—	30	25	3	(0.0016)	30°	TP-5
VTP710	7	0.015	0.06	0.09	35	10	—	30	25	3	(0.002)	30°	TP-18
VTP 1013	17	0.011	0.1	0.17	7	50	—	—	6	15	—	30°	TP-18
VTP 1013	17	0.011	0.1	0.17	1.5	50	—	—	6	15	—	30°	TP-18
VTP 1112	19	0.033	0.3	0.90	7	50	—	—	6	15	(0.0025)	15°	TP-18
VTP 1113	19	0.033	0.3	0.90	1.5	50	—	—	6	15	1.6	15°	TP-18
VTP 9412	20	0.011	0.1	0.17	7	50	—	—	6	15	—	30°	TP-5
VTP 9413	20	0.011	0.1	0.17	1.5	50	—	—	6	15	—	30°	TP-5
VTP 8040	—	0.02	0.30	0.55	15	50	—	—	15	15	—	40°	TP-5
VTP 8041	14	0.02	0.30	0.55	3	50	—	—	15	15	—	40°	TP-5
VTP 8041H	14	0.02	0.30	0.55	30	10	—	—	33	30	10	—	TP-5
VTP 8441	21	0.025	0.30	0.55	15	50	—	—	15	15	—	30°	TP-5
VTP 100	52	0.036	0.047	—	0.72	30	10	—	30	50	3	70°	TP-5
VTP 100A	52A	0.036	0.047	—	0.72	30	10	—	30	50	3	70°	TP-5
VTP 413	51	0.050	0.078	—	1.20	30	10	—	30	50	3	48°	TP-5
VTP 1150S	12	0.10	0.15	—	2.0	30	10	—	33	30	0	48°	TP-5
VTP 1150	12	0.10	0.15	—	2.0	30	10	—	33	30	0	48°	TP-5
VTP 1250S	12	0.09	0.13	—	1.5	30	10	—	50	120	0	48°	TP-5
VTP 1250	12	0.09	0.13	—	1.5	30	10	—	50	120	0	48°	TP-5
VTP 4050S	13	0.04	0.06	—	0.8	30	10	—	50	120	0	48°	TP-5
VTP 4050	13	0.04	0.06	—	0.8	30	10	—	50	120	0	48°	TP-5
VTP 5050	14	0.05	0.4	0.7	18	50	10	—	24	15	—	48°	TP-5
VTP 5051	14	0.05	0.4	0.7	3.5	50	10	—	24	15	—	48°	TP-5
VTP 8350S	11	0.04	0.06	—	0.8	30	10	—	50	120	0	48°	TP-5
VTP 8350	11	0.06	0.65	0.8	30	10	—	—	33	30	3	48°	TP-5
VTP 8351	11	0.06	0.65	0.8	18	50	10	—	24	15	—	48°	TP-5
VTP 8551	22	0.05	0.5	0.7	2	10	—	—	33	30	3	48°	TP-5
VTP 8552	22	0.05	0.5	0.7	2	10	—	—	33	30	3	48°	TP-5
VTP 8651	22	0.045	0.35	0.6	30	10	—	—	33	30	3	48°	TP-5
VTP 8652	22	0.045	0.35	0.6	2	10	—	—	33	30	3	48°	TP-5
VTP 6080	15	0.14	1.2	2.0	35	50	10	—	60	15	(0.032)	48°	TP-9
VTP 6081	15	0.14	1.2	2.0	7	50	10	—	60	15	2.05	48°	TP-9

REFER TO SPECIFICATION NOTES, PAGE 11.



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