

VTS-1 PROCESS

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SOLAR PROCESS LARGE AREA PHOTODIODE

FEATURES

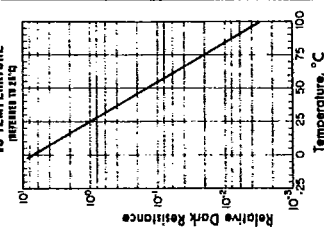
- Visible to IR spectral range.
- Useable with visible and IR LEDs.
- High open circuit voltage @ low light levels.
- 1-2% linearity over 3 to 4 decades.
- Moderate shunt resistance.
- Large area cells.
- Unmounted cells with and without flexible leads.
- Solderable contacts.
- 11 chip sizes.
- 8 arrays.

PRODUCT DESCRIPTION

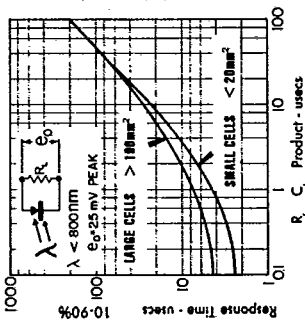
This series of P on N large area silicon diodes is primarily intended for use in the photovoltaic mode. These devices have good response over the visible and IR regions. They have low series resistance, moderate shunt resistance and high open circuit voltage at nominal light levels for use in power conversion and battery charging applications. Selected devices have gridded electrodes to enhance high illumination linearity. All cells with solderable contacts are unmounted and available as chips and with flexible flying leads.

Data Typical Except as Noted

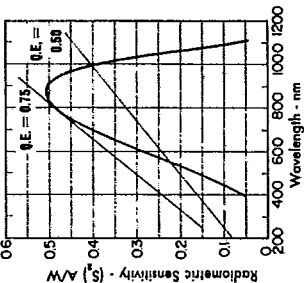
PARAMETER	SYM.	ALL PHOTOCELLS	UNITS
OPEN CIRCUIT VOLTAGE 100fc, 2850K SOURCE 100mW/cm ²	V _{oc}	450 570	mV
SPECTRAL RESPONSE - PEAK	λ_{pk}	875	nm
APPLICATION RANGE	λ_{range}	400-1050	nm
RADIOMETRIC SENSITIVITY@PEAK	S _{peak}	0.51	A/W
TEMPERATURE COEFFICIENT			%/°C
SHORT CIRCUIT CURRENT	TCIL	+0.2	%/°C
OPEN CIRCUIT VOLTAGE	TCOCV	-2.0	mV/°C
2850K SOURCE	TORSH	-8.0	%/°C
SHUNT RESISTANCE			

RELATIVE DARK RESISTANCE
VS TEMPERATURE

RISE/FALL TIMES - NON SATURATED



ABSOLUTE SPECTRAL RESPONSE

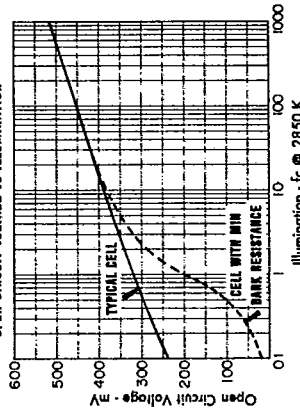


ELECTRO-OPTICAL CHARACTERISTICS (at 25 °C)

PART NO. (see Note 7 to complete Part Number)	DIMENSIONS ^(a)				Light Current I _L		Dark Current I _D		Dark Resistance R _D		Junction Capacitance C _j		NOTES
	MILLIMETERS	INCHES	Active Area	W	L	mA 100 mW/cm ² min	mA 100 fc 2850 K Short Circuit min	uA H=0 V=500mV typ. max	Megohms H=0 V=10mV typ.	nF H=0 V=0 typ.			
CASE NO.	L	W	Active Area	L	W	min	typ.	min	typ.	max	typ.	typ.	
UNMOUNTED INDIVIDUAL CELLS ⁽¹⁰⁾													
VTS-11	44B	2.21	5.1	8.5	0.087	0.200	0.013	1.8	0.041	0.055	0.1	2.2	23
VTS-12	44B	2.54	5.1	10	0.100	0.200	0.016	2.1	0.050	0.070	0.2	2	27
VTS-13	44A	5.1	5.1	21	0.200	0.200	0.032	4.5	0.10	0.14	0.5	5	55
VTS-14	44C	10.2	5.1	42	0.400	0.200	0.065	9.0	0.21	0.27	1.0	10	11
VTS-18	44C	10.2	5.1	85	0.800	0.200	0.132	18	0.42	0.55	1.0	40	22
VTS-20	44A	10.2	10.2	93	0.400	0.400	0.144	19	0.46	0.60	1.0	50	23
VTS-22	44A	10.2	10.2	84	0.400	0.400	0.130	21.5	23	—	0.58	2.0	50
VTS-24	44C	20.3	10.2	187	0.800	0.400	0.280	39	0.93	1.2	2.0	100	0.11
VTS-26	44C	20.3	10.2	182	0.800	0.400	0.281	23	45	—	1.14	10	100
VTS-28	44A	20.3	20.3	392	0.800	0.800	0.607	86	1.9	2.5	10	200	0.022
UNMOUNTED 3 CELL ARRAYS ⁽¹⁰⁾													
VTS-60	45	10.2	13.2	126	0.40	0.82	0.20	8.4	—	—	0.24	—	3.7
VTS-61	45	20.3	13.2	252	0.80	0.52	0.39	17	—	—	0.50	—	7.0
VTS-62	45	10.2	28.4	270	0.40	1.12	0.42	18	—	—	0.54	—	8.0
VTS-63	45	20.3	28.4	561	0.80	1.12	0.87	38	—	—	1.05	—	16
UNMOUNTED 5 CELL ARRAYS ⁽¹⁰⁾													
VTS-64	45	10.2	21.3	210	0.40	0.84	0.33	8.4	—	—	0.24	—	2.2
VTS-65	45	20.3	21.3	420	0.80	0.84	0.65	17	—	—	0.50	—	4.4
VTS-66	45	10.2	46.7	450	0.40	1.84	0.70	18	—	—	0.54	—	4.6
VTS-67	45	20.3	46.7	935	0.80	1.84	1.45	38	—	—	1.05	—	9.6

REFER TO SPECIFICATION NOTES, PAGE 11.

OPEN CIRCUIT VOLTAGE VS ILLUMINATION

TEMPERATURE COEFFICIENT OF
LIGHT CURRENT VS WAVELENGTH