



Product Change Notification



Product Group: OPT/Fri Dec 17, 2021/PCN-OPT-1176-2021-REV-0

TCRT1000,TCRT1010,TCRT1010S - Change in Chip

DESCRIPTION OF CHANGE: A new chip generation will be introduced in TCRT1000,TCRT1010,TCRT1010S.

With the new chip, the devices will have more than 40% increased collector current. The high performance chip allows customers to achieve the required intensity with lower driving current.

REASON FOR CHANGE: Introduction of new chip generation with improved electro-optical performance.

EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE: No influence on quality and reliability expected. Nevertheless, we recommend to test the product in customers application.

PART NUMBERS/SERIES/FAMILIES AFFECTED: TCRT1000, TCRT1010, TCRT1010S,

VISHAY BRAND(s): Vishay Semiconductors

TIME SCHEDULE:

Start Shipment Date: Sun May 1, 2022

SAMPLE AVAILABILITY: 31.Jan.2022

PRODUCT IDENTIFICATION: Date code

QUALIFICATION DATA: Available upon request

This PCN is considered approved, without further notification, unless we receive specific customer concerns before Fri Apr 15, 2022 or as specified by contract.

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TCRT1000,TCRT1010,TCRT1010S - Chan

Change overview

PCN: OPT-1176-2021 Rev. 0

Change Overview

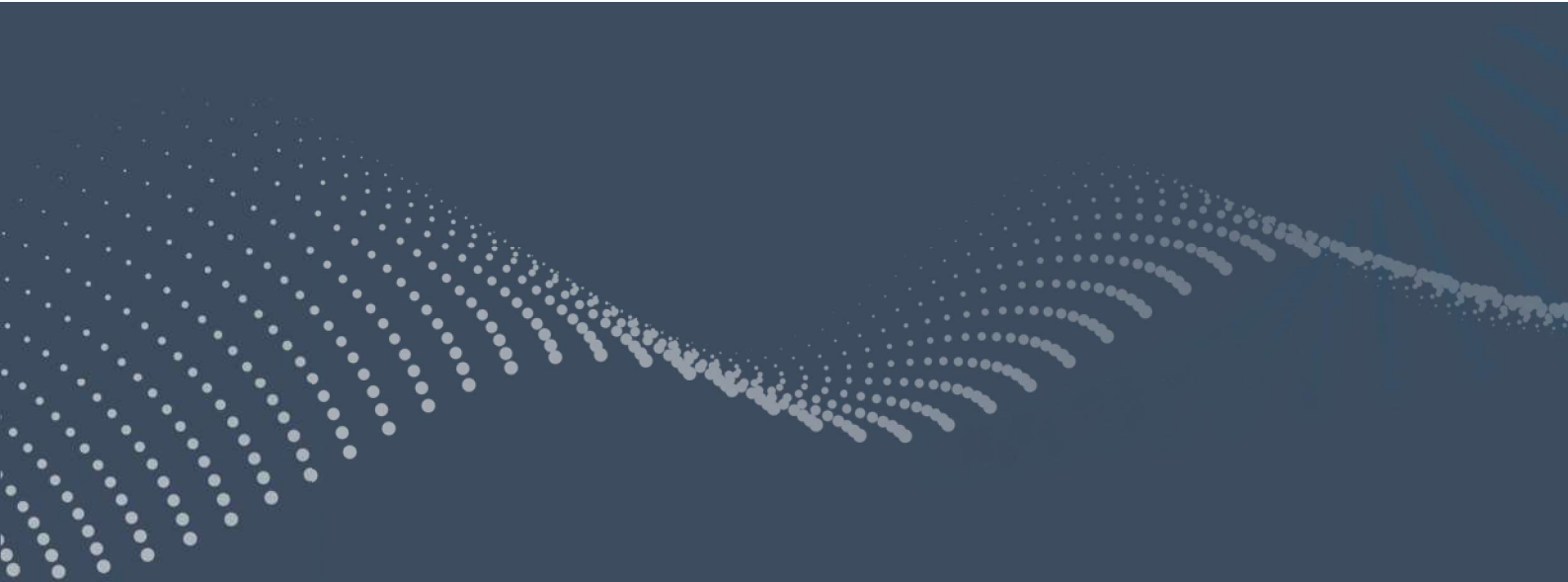
Before PCN

BASIC CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
SENSOR						
Collector current	V _{CE} = 5 V, I _F = 20 mA, d = 1 mm (figure 2)	I _C ⁽¹⁾	0.3	0.5		mA
Cross talk current	V _{CE} = 5 V, I _F = 20 mA, (figure 1)	I _{CX} ⁽²⁾			1	μA
Collector emitter saturation voltage	I _F = 20 mA, I _C = 0.1 mA, d = 1 mm (figure 2)	V _{CEsat} ⁽¹⁾			0.3	V
INPUT (EMITTER)						
Forward voltage	I _F = 50 mA	V _F		1.25	1.6	V
Radiant intensity	I _F = 50 mA, t _p = 20 ms	I _e			7.5	mW/sr
Peak wavelength	I _F = 100 mA	λ _p	940			nm
Virtual source diameter	Method: 63 % encircled energy	d		1.2		mm
OUTPUT (DETECTOR)						
Collector emitter voltage	I _C = 1 mA	V _{CEO}	32			V
Emitter collector voltage	I _E = 100 μA	V _{ECO}	5			V
Collector dark current	V _{CE} = 20 V, I _F = 0 A, E = 0 lx	I _{CEO}			200	nA

BASIC CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)	
PARAMETER	UNIT
SENSOR	
Collector current	V _{CE} = 5 V, I _F = 20 mA, d = 1 mm (figure 2)
Cross talk current	V _{CE} = 5 V, I _F = 20 mA, (figure 1)
Collector emitter saturation voltage	I _F = 20 mA, I _C = 0.1 mA, d = 1 mm (figure 2)
INPUT (EMITTER)	
Forward voltage	I _F = 50 mA
Peak wavelength	I _F = 100 mA
OUTPUT (DETECTOR)	
Collector emitter voltage	I _C = 1 mA
Emitter collector voltage	I _E = 100 μA
Collector dark current	V _{CE} = 20 V, I _F = 0 A, E = 0 lx

Main change:

- Higher Collector current (Typical : 0.5mA to 0.7mA)



Thank you