

# **FMMT497TC Datasheet**



DiGi Electronics Part Number	FMMT497TC-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	FMMT497TC
Description	TRANS NPN 300V 0.5A SOT23-3
Detailed Description	Bipolar (BJT) Transistor NPN 300 V 500 mA 75MHz 5 00 mW Surface Mount SOT-23-3

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### Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
FMMT497TC	Diodes Incorporated
Series:	Product Status:
	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	500 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ lb, lc:
300 V	300mV @ 25mA, 250mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA	80 @ 100mA, 10V
Power - Max:	Frequency - Transition:
500 mW	75MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-236-3, SC-59, SOT-23-3	SOT-23-3
Base Product Number:	
FMMT497	

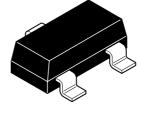
### **Environmental & Export classification**

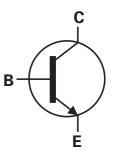
RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	

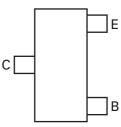


# FMMT497 SOT23 NPN silicon planar high voltage high performance transistor

Complementary part number - FMMT597 Device marking - 497







Pinout - top view

### Absolute maximum ratings

Parameter	Symbol	Value	Unit
Collector-base voltage	V <sub>CBO</sub>	300	V
Collector-emitter voltage	V <sub>CEO</sub>	300	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Continuous collector current	۱ <sub>C</sub>	500	mA
Peak pulse current	I <sub>СМ</sub>	1	А
Base current	Ι <sub>Β</sub>	200	mA
Power dissipation at T <sub>amb</sub> =25°C	P <sub>tot</sub>	500	mW
Operating and storage temperature range	T <sub>j</sub> :T <sub>stg</sub>	-55 to +150	°C

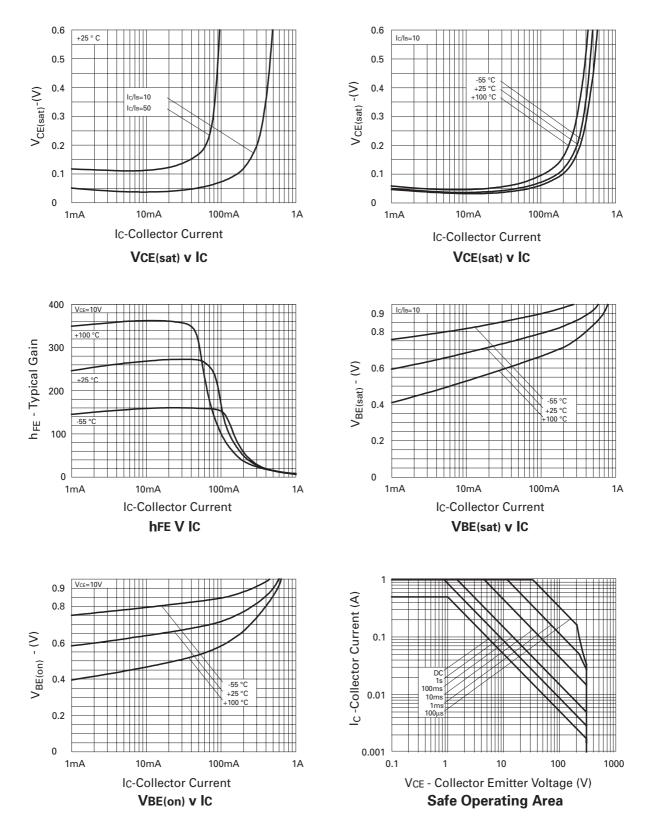
Parameter	Symbol	Min.	Тур.	Мах	Unit	Conditions
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	300		•	V	I <sub>C</sub> = 100μA
Collector-emitter breakdown voltage	V <sub>CEO(sus)</sub>	300			V	I <sub>C</sub> = 10mA <sup>(*)</sup>
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	5			V	I <sub>E</sub> = 100μA
Collector cut-off current	I <sub>CBO</sub>			100	nA	V <sub>CB</sub> = 250V
Collector cut-off current	I <sub>CES</sub>			100	nA	V <sub>CES</sub> = 250V
Emitter cut-off current	I <sub>EBO</sub>			100	nA	$V_{EB} = 4V$
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>			0.2 0.3	V V	l <sub>C</sub> = 100mA, l <sub>B</sub> = 10mA l <sub>C</sub> = 250mA, l <sub>B</sub> = 25mA
Base-emitter saturation voltage	V <sub>BE(sat)</sub>			1.0	V	l <sub>C</sub> = 250mA, l <sub>B</sub> = 25mA
Base-emitter turn on voltage	V <sub>BE(on)</sub>			1.0	V	I <sub>C</sub> = 250mA, V <sub>CE</sub> = 10V
Static forward current transfer ratio	h <sub>FE</sub>	100 80 20		300		$I_{C} = 1mA, V_{CE} = 10V$ $I_{C} = 100mA, V_{CE} = 10V^{(*)}$ $I_{C} = 250mA, V_{CE} = 10V^{(*)}$
Transition frequency	f <sub>T</sub>	75			MHz	l <sub>C</sub> = 50mA, V <sub>CE</sub> = 10V f = 100MHz
output capacitance	C <sub>obo</sub>			5	pF	V <sub>CB</sub> = 10V, f = 1MHz
Switching performance	td		53		ns	V <sub>CC</sub> = 100V, I <sub>C</sub> = 100mA,
	tr		126		ns	lb1 = -lb2 = 10mA
	ts		2.58		μs	]
	tf		228		ns	

### Electrical characteristics (at $T_{amb}$ = 25°C unless otherwise stated)

NOTES:

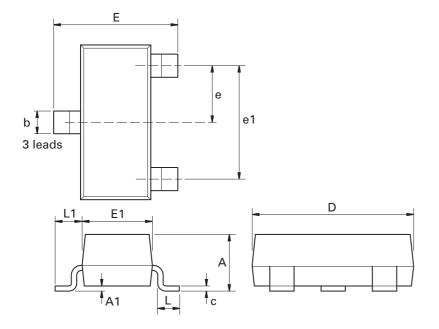
(\*) Measured under pulsed conditions. Pulse width = 300  $\mu s.$  Duty cycle  ${\leq}2\%.$ 





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### Package outline - SOT23



Dim.	Millin	Millimeters Inches Dim		Dim.	Millimeters		Inches		
	Min.	Max.	Min.	Max.		Min.	Max.	Max.	Max.
А	-	1.12	-	0.044	e1	1.90	NOM	0.075	NOM
A1	0.01	0.10	0.0004	0.004	E	2.10	2.64	0.083	0.104
b	0.30	0.50	0.012	0.020	E1	1.20	1.40	0.047	0.055
С	0.085	0.120	0.003	0.008	L	0.25	0.62	0.018	0.024
D	2.80	3.04	0.110	0.120	L1	0.45	0.62	0.018	0.024
е	0.95	NOM	0.0375	5 NOM	-	-	-	-	-

Note: Controlling dimensions are in millimeters. Approximate dimensions are provided in inches

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Product status key:	
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"Active"	Product status recommended for new designs
"Last time buy (LTB)"	Device will be discontinued and last time buy period and delivery is in effect
"Not recommended for new designs"	Device is still in production to support existing designs and production
"Obsolete"	Production has been discontinued
Datasheet status key:	
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