FMMT497TC Datasheet

https://www.DiGi-Electronics.com

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 500 mW Surface Mount SOT-23-3

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

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) @ Ib, Ic:
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	

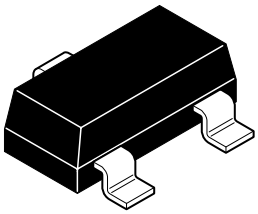
Environmental & Export classification

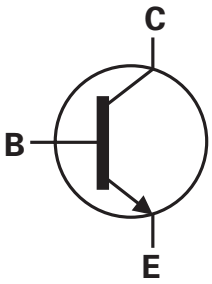
RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	

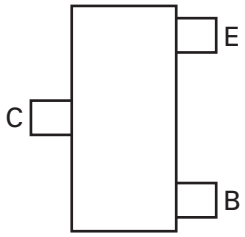
FMMT497
SOT23 NPN silicon planar high voltage high performance transistor

Complementary part number - FMMT597

Device marking - 497







Pinout - top view

Absolute maximum ratings

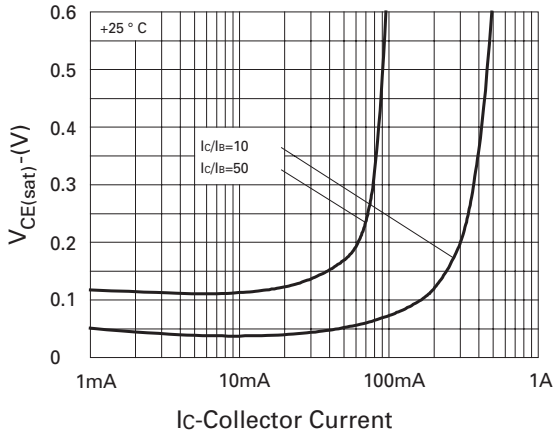
Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	300	V
Collector-emitter voltage	V_{CEO}	300	V
Emitter-base voltage	V_{EBO}	5	V
Continuous collector current	I_C	500	mA
Peak pulse current	I_{CM}	1	A
Base current	I_B	200	mA
Power dissipation at T_{amb}=25°C	P_{tot}	500	mW
Operating and storage temperature range	T_j:T_{stg}	-55 to +150	°C

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

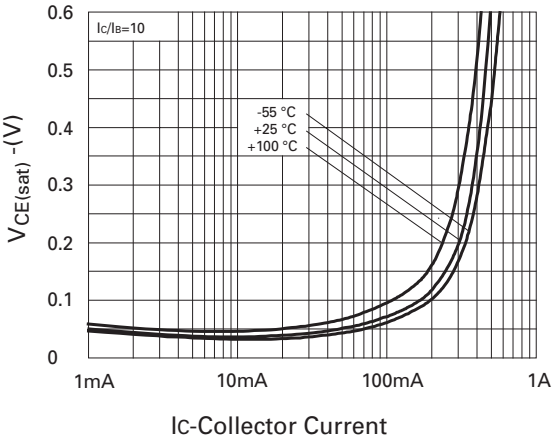
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	300			V	I_C = 100μA
Collector-emitter breakdown voltage	$V_{CEO(sus)}$	300			V	I_C = 10mA (*)
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5			V	I_E = 100μA
Collector cut-off current	I_{CBO}			100	nA	V_{CB} = 250V
Collector cut-off current	I_{CES}			100	nA	V_{CES} = 250V
Emitter cut-off current	I_{EBO}			100	nA	V_{EB} = 4V
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.2 0.3	V V	I_C = 100mA, I_B = 10mA I_C = 250mA, I_B = 25mA
Base-emitter saturation voltage	$V_{BE(sat)}$			1.0	V	I_C = 250mA, I_B = 25mA
Base-emitter turn on voltage	$V_{BE(on)}$			1.0	V	I_C = 250mA, V_{CE} = 10V
Static forward current transfer ratio	h_{FE}	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_T	75			MHz	I_C = 50mA, V_{CE} = 10V f = 100MHz
output capacitance	C_{obo}			5	pF	V_{CB} = 10V, f = 1MHz
Switching performance	td		53		ns	V_{CC} = 100V, I_C = 100mA, Ib1 = -Ib2 = 10mA
	tr		126		ns	
	ts		2.58		μs	
	tf		228		ns	

NOTES:
(*) Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤2%.

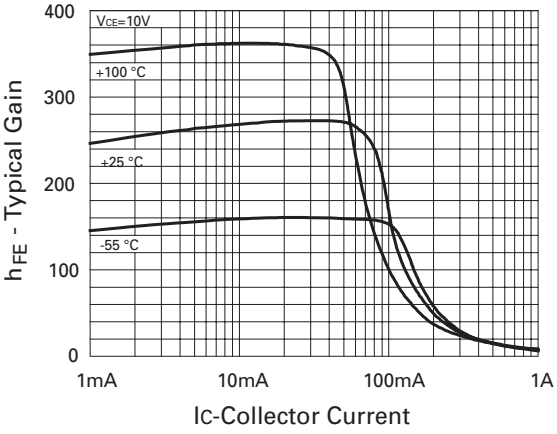
Typical characteristics



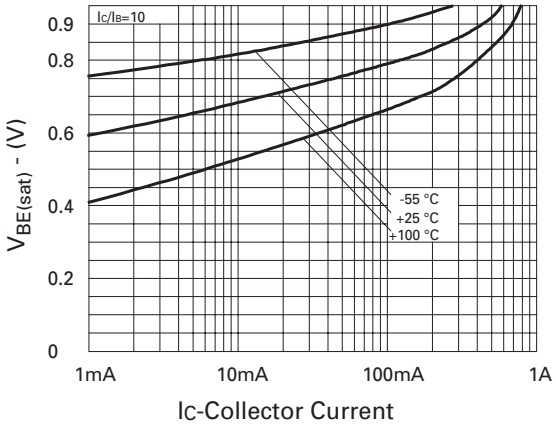
VCE(sat) v IC



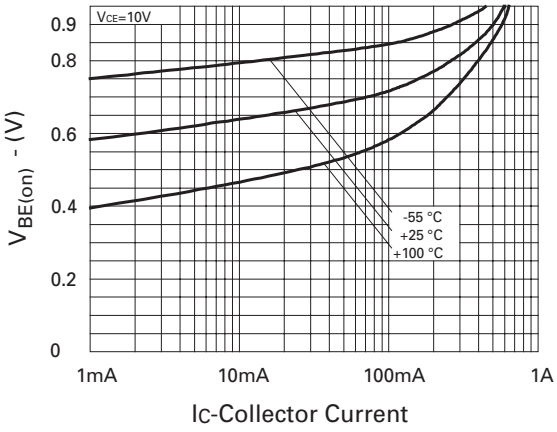
VCE(sat) v IC



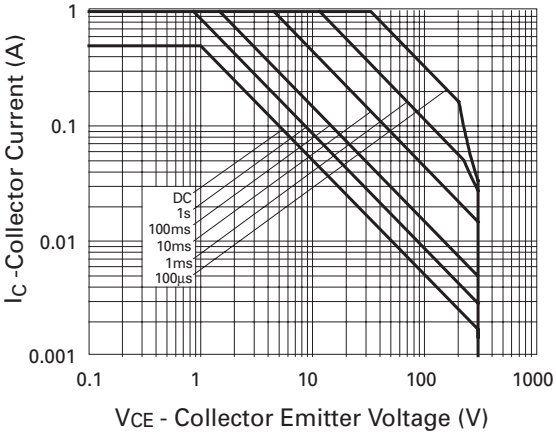
hFE V IC



VBE(sat) v IC

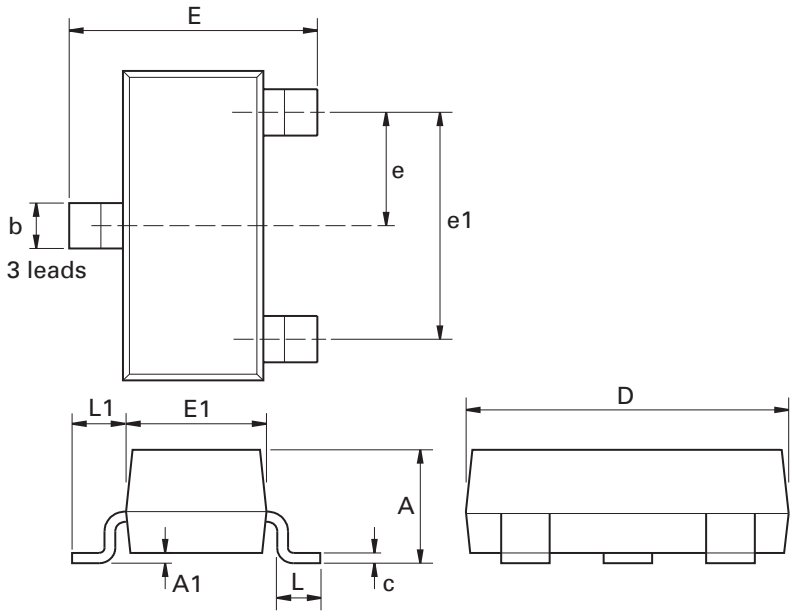


VBE(on) v IC



Safe Operating Area

Package outline - SOT23



Dim.	Millimeters		Inches		Dim.	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Max.	Max.
A	-	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
C	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
e	0.95 NOM		0.0375 NOM		-	-	-	-	-

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

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or

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Europe	**Americas**	**Asia Pacific**	**Corporate Headquarters**
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Telefon: (49) 89 45 49 49 0 Fax: (49) 89 45 49 49 49 europe.sales@zetex.com	Telephone: (1) 631 360 2222 Fax: (1) 631 360 8222 usa.sales@zetex.com	Telephone: (852) 26100 611 Fax: (852) 24250 494 asia.sales@zetex.com	Telephone: (44) 161 622 4444 Fax: (44) 161 622 4446 hq@zetex.com

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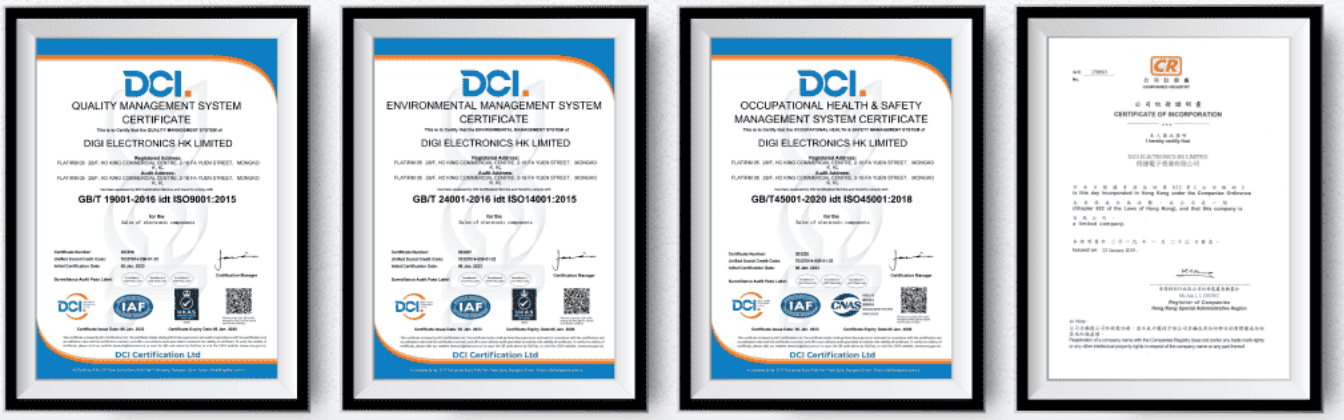

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