General purpose transistor (isolated transistor and diode)

EML17

DTA144E and a RB520G-30 are housed independently in a EMT package.

Applications

DC / DC converter Motor driver

Features

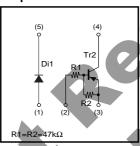
1) Tr : Degital Transistor Di : Low V_F

2) Small package

●Structure

Silicon epitaxial planar degital transistor Schottky barrier diode

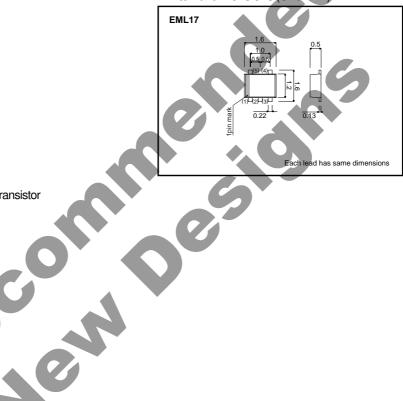
●Equivalent circuit



Packaging specifications

Туре	EML17
Package	EMT5
Marking	L17
Code	T2R
Basic ordering unit (pieces)	8000

●External dimensions (Unit:mm)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
DC current voltage	VR	30	V
Mean rectifying current	lo	100	mA
Forward peak surge current (60Hz 1cyc.)	IFSM	500	mA
Junction temperature	Tj	125	ů
Storage temperature	Tstg	-40 to +125	°C

^{* 60}Hz, 1 \bigcirc

Tr2

Parameter	Symbol	Limits	Unit		
Supply voltage	Vcc	-50	V		
Input voltage	Vin	-40 to +10	V		
Output ourront	lo	-30	mA		
Output current	IC(MAX)	-100	mA		
Power dissipation	Pd	120	mW		
Junction temperature	Tj	150	°C		

Di1, Tr2

Parameter	Symbol	Limits	Unit
Power dissipation	Pd	150	mW *
Range of storage temperature	Tstg	-55 to +125	°C

^{*} Each terminal mounted on a recommended land.

●Electrical characteristics (Ta=25°C)

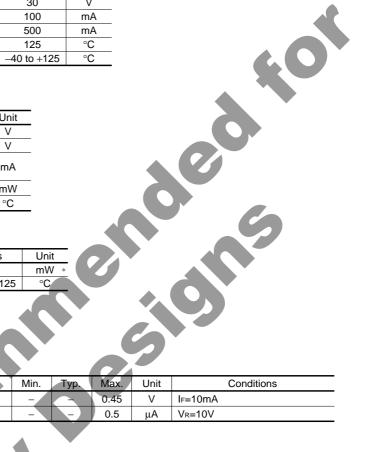
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	VF	-/		0.45	V	I _F =10mA
Reverse current	J R	-	-	0.5	μΑ	V _R =10V

^{*} Please pay attention to static electricity when handling.

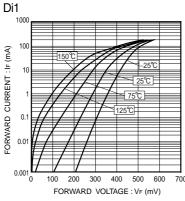
Tr2

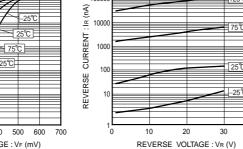
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage	VI(off)	-	_	-0.5	V	Ic= -5V, Io= -100μA
	VI(on)	-3.0	_	_		Vo= -0.3V, Io= -2mA
Output voltage	VO(on)	_	-0.1	-0.3	٧	Io/I=-10mA/-0.5mA
Input current		_	_	-0.18	mA	Vi= −5V
Output current	IO(off)	_	_	-0.5	μΑ	Vcc= -50V, V⊫0V
DC current gain	G ₁	68	_	_	ı	Vo= -5V, Io= -5mA
Input resistance	R ₁	32.9	47	61.1	kΩ	_
Resistance ratio	R2/R1	0.8	1	1.2	_	_
Transition frequency	f⊤	_	250	_	MHz	Vc=-10V, I=5mA, f=100MHz *
_ 10 4 40 1 1						

Transition frequency of the device



•Electrical characteristic curves





10000

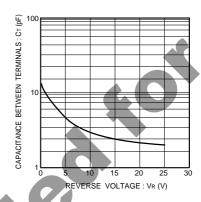
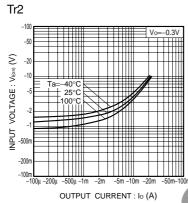
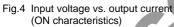


Fig.1 Forward characteristics

Fig.2 Reverse characteristics

Fig. 3 Capacitance between terminals characteristics





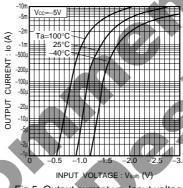


Fig.5 Output current vs. Input voltage (OFF characteristics)

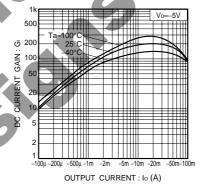


Fig.6 DC current gain vs. output current

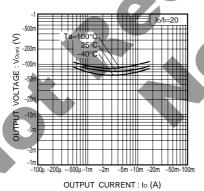


Fig.7 Output voltage vs. output current

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