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

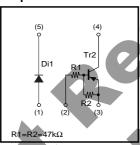
Di: Low VF

2) Small package

Structure

Silicon epitaxial planar degital transistor Schottky barrier diode

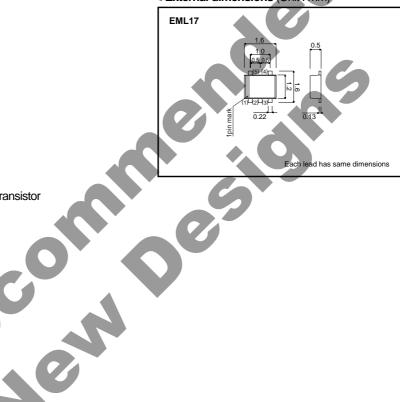
●Equivalent circuit



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	°C
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	m A		
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)

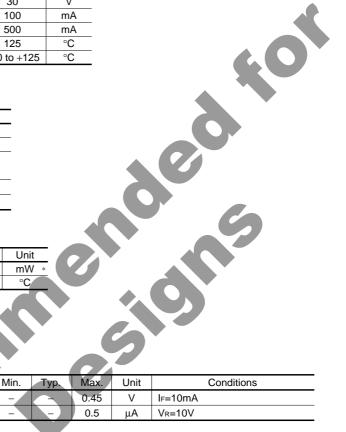
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	VF	/		0.45	V	I _F =10mA
Reverse current	JR	-	-	0.5	μΑ	V _R =10V

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

Tr2

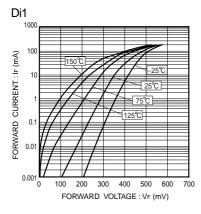
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage	VI(off)	-	-	-0.5	V	Ic= -5V, Io= -100μA
	VI(on)	-3.0	_	_		Vo= -0.3V, Io= -2mA
Output voltage	Vo(on)	_	-0.1	-0.3	V	Io/I=-10mA/-0.5mA
Input current		_	_	-0.18	mA	Vi= −5V
Output current	IO(off)	_	_	-0.5	μΑ	Vcc= -50V, V⊫0V
DC current gain	G ₁	68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

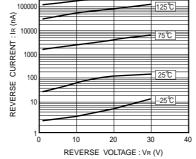
Transition frequency of the device





•Electrical characteristic curves





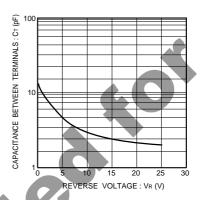
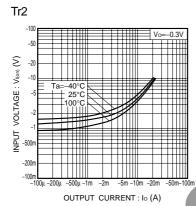
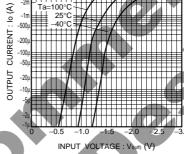


Fig.1 Forward characteristics

Fig.2 Reverse characteristics

Fig. 3 Capacitance between terminals characteristics





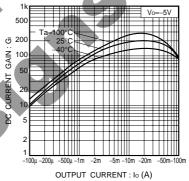


Fig.4 Input voltage vs. output current (ON characteristics)

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

Fig.6 DC current gain vs. output current

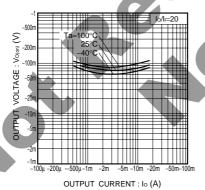


Fig.7 Output voltage vs. output current

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