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

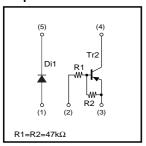
Di: Low VF

2) Small package

●Structure

Silicon epitaxial planar degital transistor Schottky barrier diode

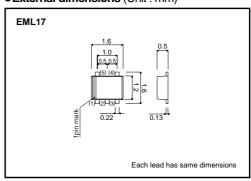
●Equivalent circuit



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)

Di1

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—

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		
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)

Di1

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Forward voltage	VF	_	-	0.45	V	I _F =10mA
Reverse current	l _R	_	_	0.5	μA	V _R =10V

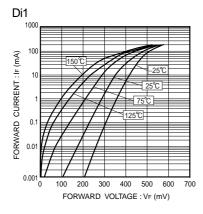
^{*} Please pay attention to static electricity when handling.

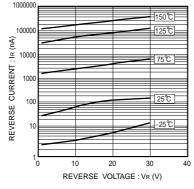
Tr2

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
long to coltage	VI(off)	_	_	-0.5		Ic= -5V, Io= -100μA
Input voltage	V _{I(on)} -3.0	V _{I(on)} -3.0	V	Vo= -0.3V, Io= -2mA		
Output voltage	Vo(on)	_	-0.1	-0.3	V	lo/l≔ −10mA/ −0.5mA
Input current	lı	_	_	-0.18	mA	V _I = −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, Ie=5mA, f=100MHz *

^{*} Transition frequency of the device

•Electrical characteristic curves





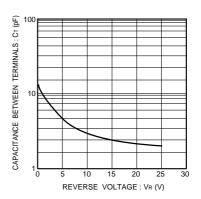


Fig.1 Forward characteristics

Fig.2 Reverse characteristics

Fig. 3 Capacitance between terminals characteristics

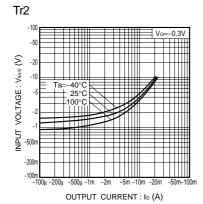


Fig.4 Input voltage vs. output current (ON characteristics)

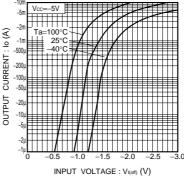


Fig.5 Output current vs. Input voltage (OFF characteristics)

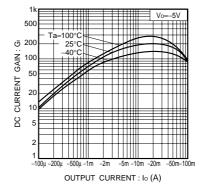


Fig.6 DC current gain vs. output current

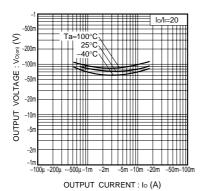


Fig.7 Output voltage vs. output current

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