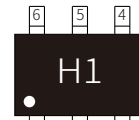


FEATURES

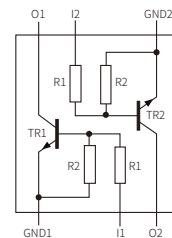
- | 100mA output current capability
- | Built-in bias resistors
- | Simplifies circuit design
- | Reduces component count
- | Reduces pick and place costs



SOT-363



Marking



Schematic Symbol

MECHANICAL DATA

- | SOT-363 small outline plastic package
- | Epoxy UL: 94V-0
- | Mounting position: Any
- | R1=10KΩ, R2=10KΩ

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

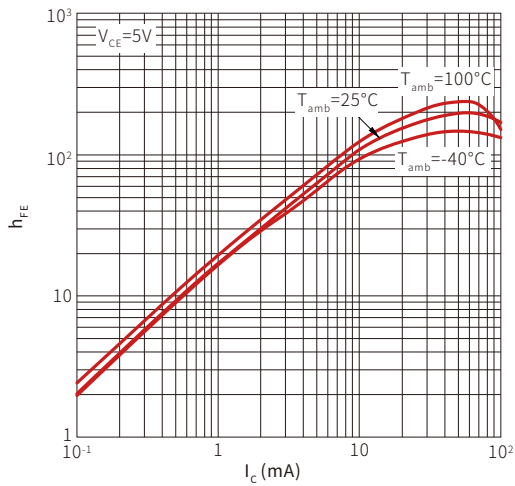
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	
Emitter-Base Voltage	V_{EBO}	10	
Input Voltage	V_i	-10~40	V
Output Current	I_o	100	mA
Total Power Dissipation @ $T_{amb} \leq 25^{\circ}\text{C}$	P_{tot}	200	mW
Thermal resistance form junction to ambient	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$
Total Power Dissipation @ $T_{amb} \leq 25^{\circ}\text{C}$	P_{tot}	300	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C/W}$
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Ambient Temperature	T_{amb}	-65~150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

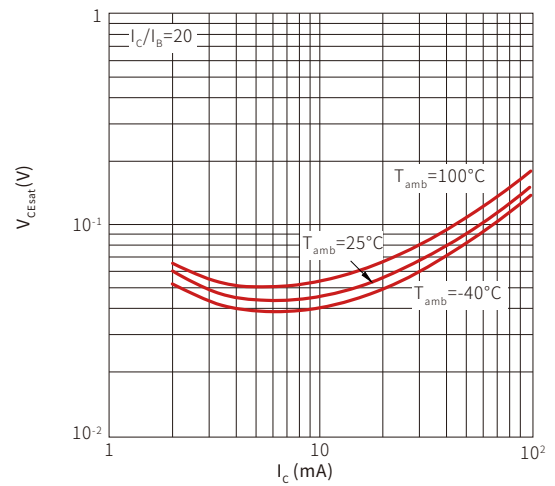
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =2mA, I _B =0	50			
Collector-base cut-off current	I _{CBO}	V _{CB} =50V, I _E =0			100	nA
Collector-emitter cut-off current	I _{CEO}	V _{CE} =30V, I _B =0			1	μA
		V _{CE} =30V, I _B =0, T _j =150°C			5	
Emitter-base cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			400	μA
DC current gain	h _{FE}	V _{CE} =5V, I _C =5mA	30			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10mA, I _B =0.5mA			150	mV
Off-state input voltage	V _{I(off)}	V _{CE} =5V, I _C =100μA	0.8	1.1		V
On-state input voltage	V _{I(on)}	V _{CE} =0.3V, I _C =10mA		1.8	2.5	V
Bias resistor 1 (input)	R ₁		7	10	13	KΩ
Bias resistor ratio	R ₂ /R ₁		0.8	1	1.2	
Collector capacitance	C _C	V _{CB} =10V, I _E =0, i _e =0, f=1MHz			2.5	pF
Transition frequency	F _t	V _{CE} =5V, I _C =10mA, f=100MHz		230		MHz

TYPICAL CHARACTERISTICS

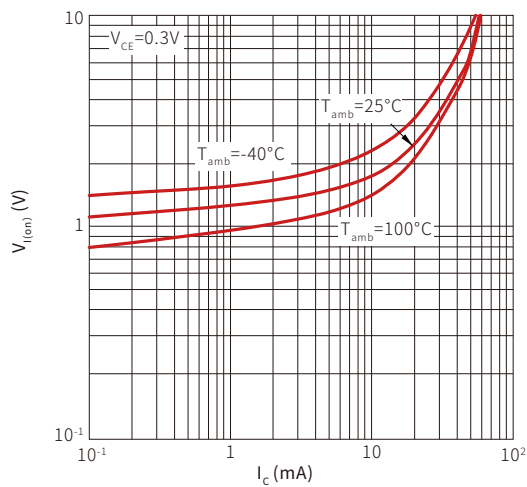
DC current gain as a function of collector current; typical values



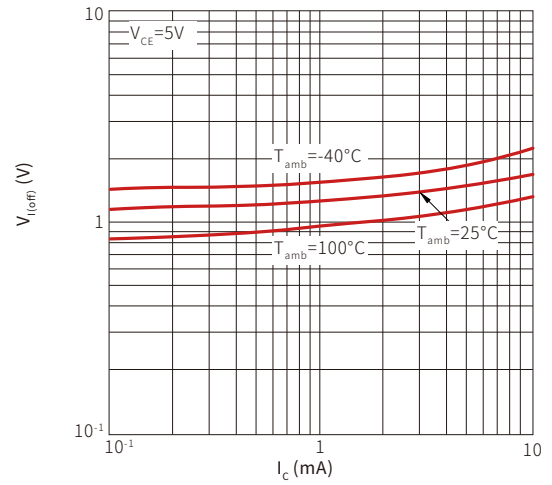
Collector-emitter saturation voltage as a function of collector current; typical values



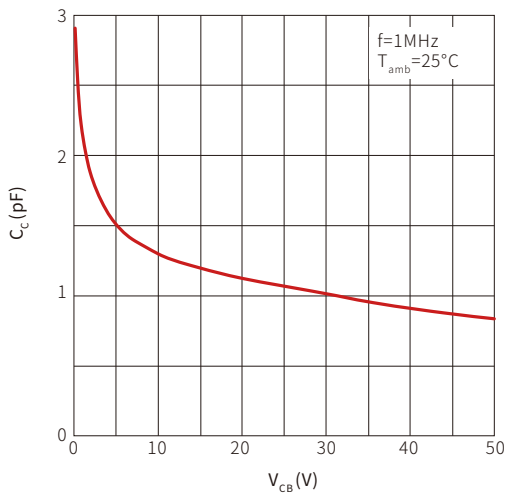
On-state input voltage as a function of collector current; typical values



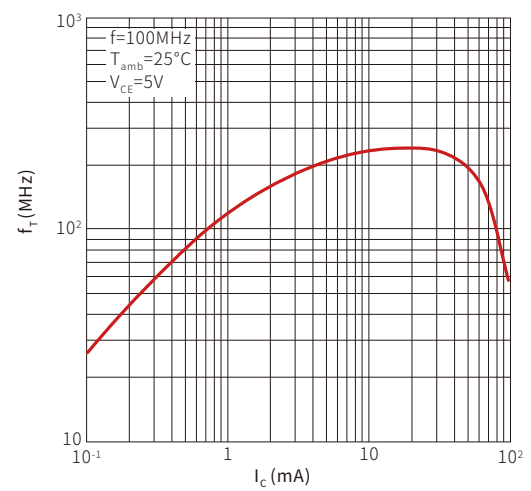
Off-state input voltage as a function of collector current; typical values



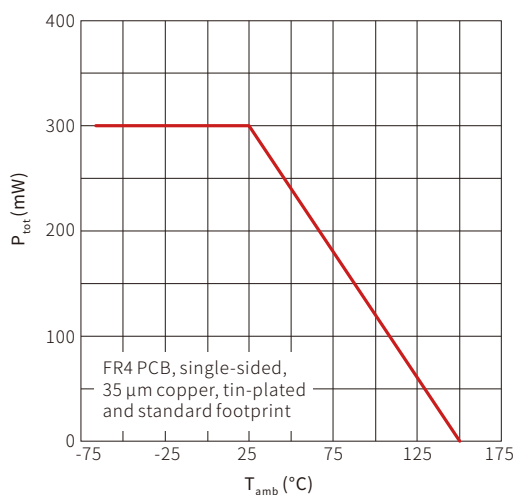
Collector capacitance as a function of collector-base voltage; typical values



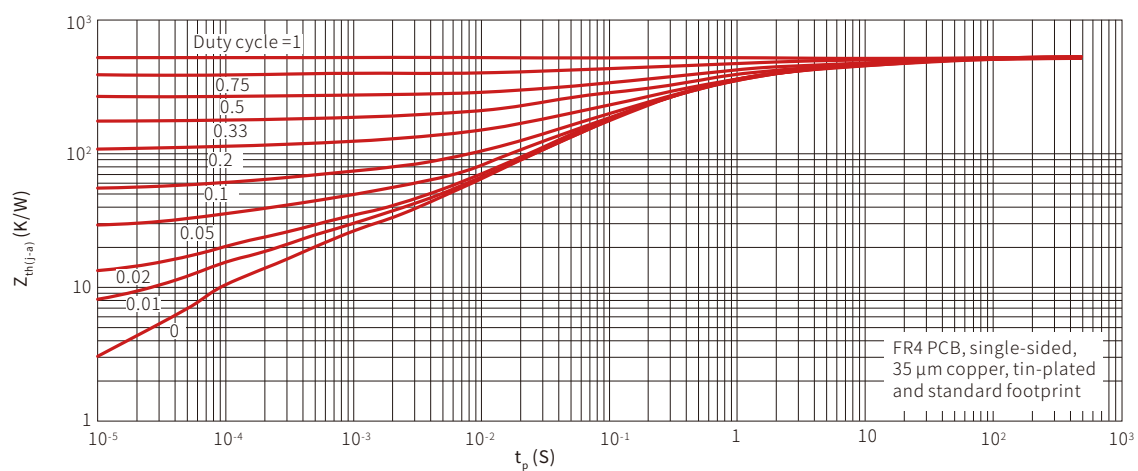
Transition frequency as a function of collector current; typical values of built-in transistor



Per device: Power derating curve

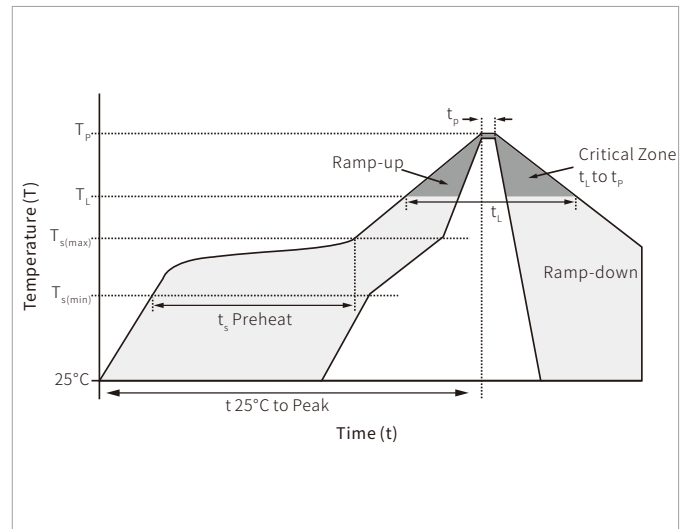


Per transistor: Transient thermal impedance from junction to ambient as a function of pulse duration; typical values

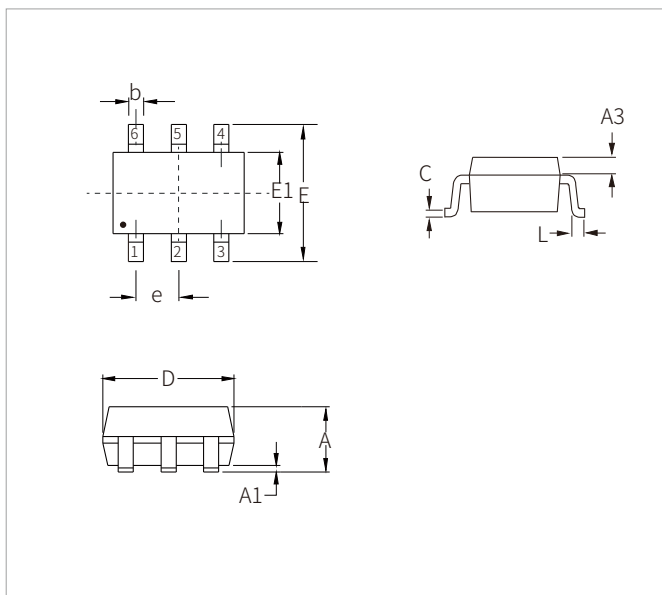


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

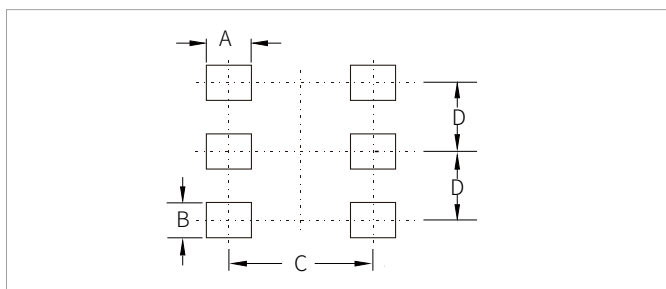


SOT-363 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
A1	0.00	0.10	0.000	0.004
A3	0.20REF		0.008REF	
D	1.80	2.20	0.070	0.086
E1	1.15	1.35	0.045	0.053
E	2.00	2.40	0.078	0.094
e	0.65BSC		0.026BSC	
b	0.10	0.40	0.004	0.016
L	0.10	0.50	0.004	0.020
C	0.10	0.25	0.004	0.010

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.50	0.0197
B	0.40	0.0157
C	1.90	0.0748
D	0.65	0.0250

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
PUMH11	SOT-363	3000PCS	7"

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By QR Code

Website



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