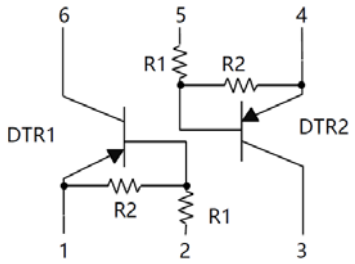
Dual PNP Digital Transistors (Built-in Resistors)



SOT-363



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package**: SOT-363
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				B13
Collector-base voltage	V_{CC}	V		-50
Collector-emitter voltage	V_{IN}	V		-30 to +5
Collector current	I_O	mA		-100
Power dissipation	P_D	mW		150
Operation junction temperature	T_J	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$VI_{(off)}$	V	V_{CC}=-5V,Ic=-100uA	-0.5		
	$VI_{(on)}$	V	V_O=-0.3V,Ic=-2mA			-1.3
Output voltage	$Vo_{(on)}$	V	Io /Ii =-5mA/-0.25 mA			-0.3
Input current	I_I	mA	V_I=-5V			-1.8
Output current	$I_{O(off)}$	uA	V_{CC}=-50V, Vi=0			-0.5
DC current gain	G_I		Vo=-5V, Io =-10mA	80		
Input resistance	R_1	kΩ		3.29	4.7	6.11
Resistance ratio	R_2/R_1			8	10	12
Transition frequency	f_T	MHz	V_O=-10V,I_O=-5mA,f=100MHz		250	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	834
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	667

Note:

（1）Device mounted on PCB, single-sided copper， with standard footprint

■Characteristics

Fig 1：Input Voltage (On) Characteristics

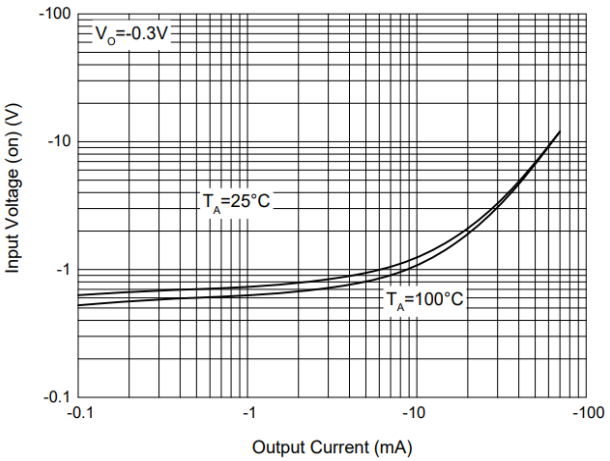


Fig 2：Input Voltage (Off) Characteristic

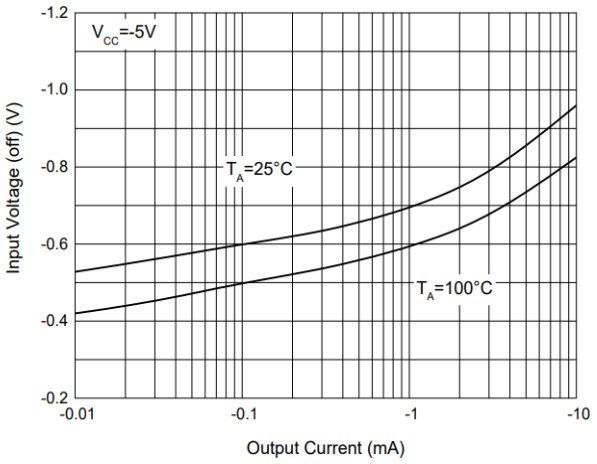


Fig 3：DC Current Gain Characteristics

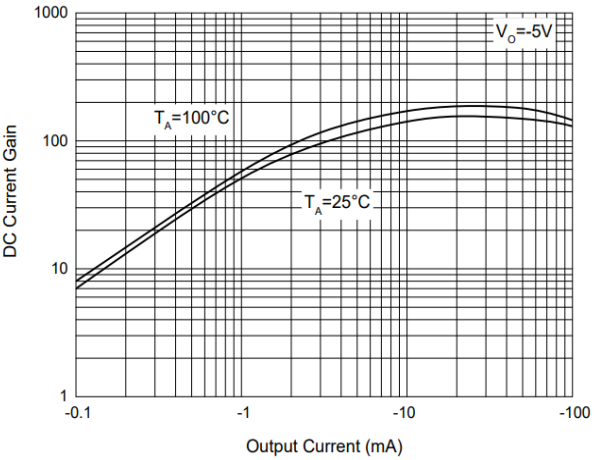


Fig 4：Output Voltage Characteristics

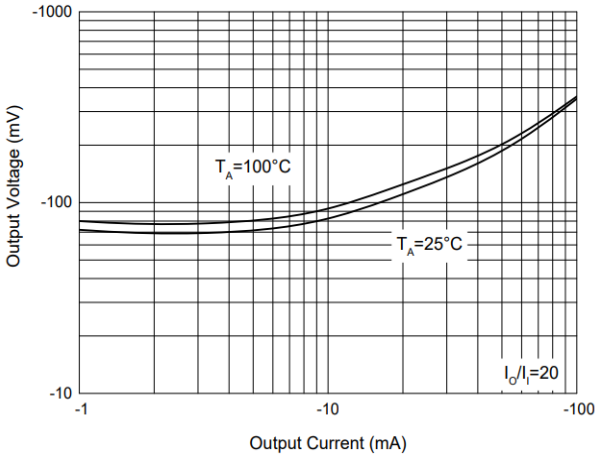
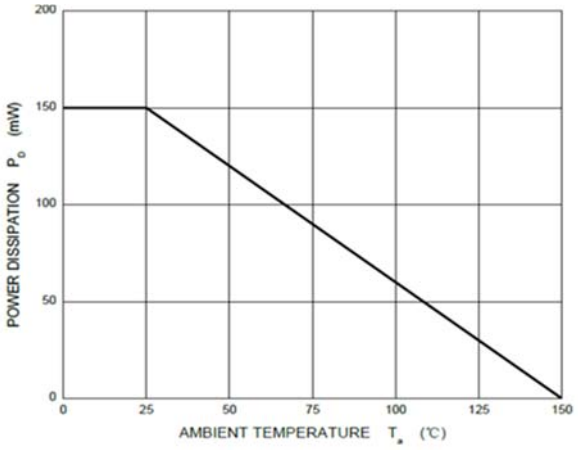


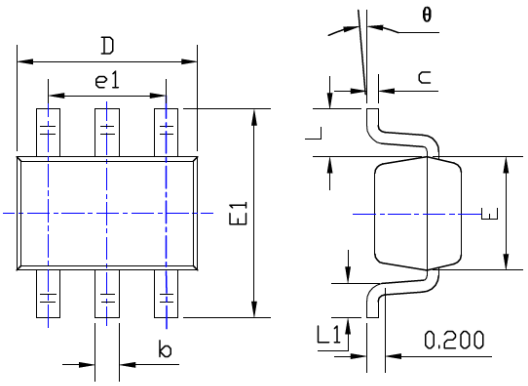
Fig 5：PD-Ta Curve



■Ordering Information

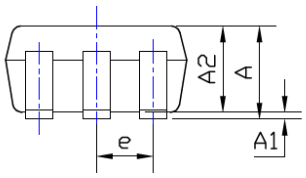
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
UMB13N	F2	Approximate 0.009	3000	30000	120000	7” reel
UMB13N	F3	Approximate 0.009	10000	/	210000	7” reel

■ Outline Dimensions



TOP VIEW

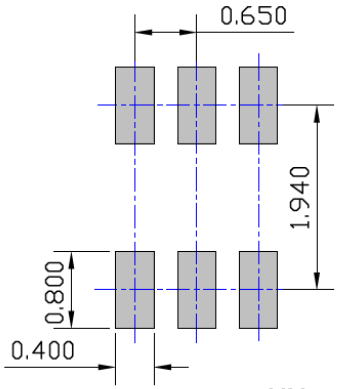
SIDE VIEW



SIDE VIEW

DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

■ Suggested Pad Layout



UNIT：mm

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