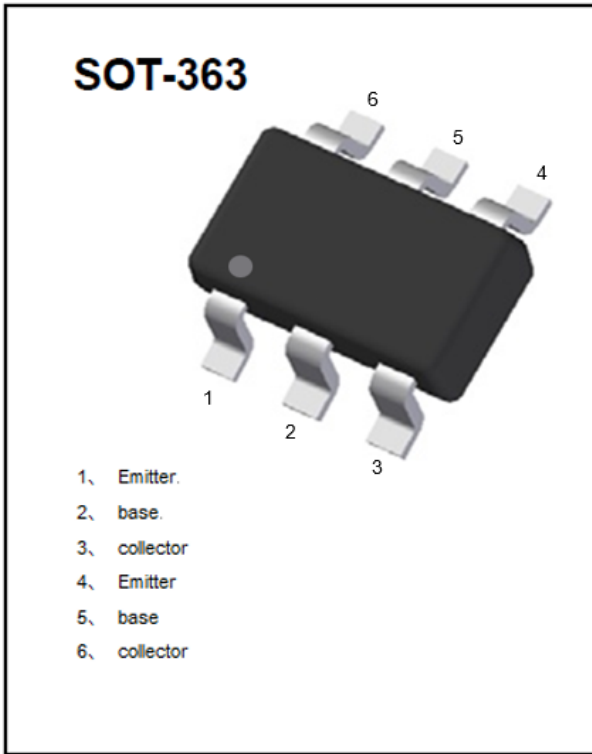


Dual NPN Small Signal Transistor



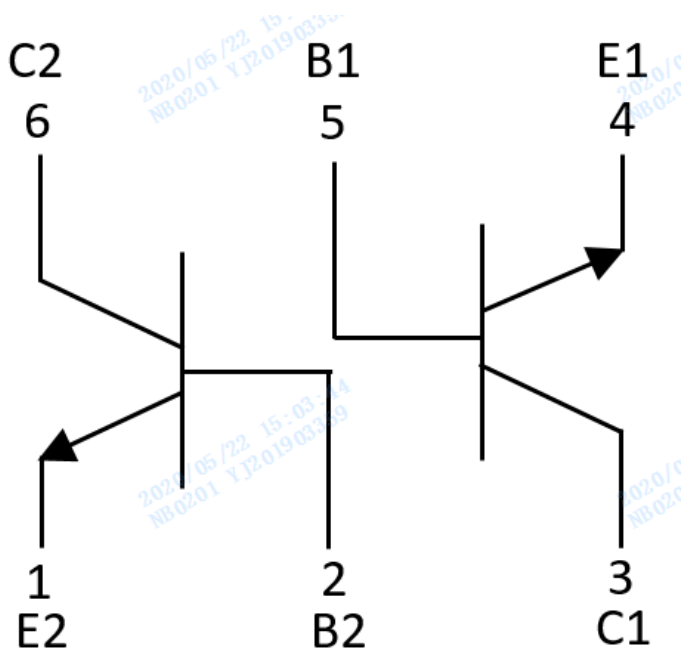
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K2X

Equivalent circuit





MMDT4401

■Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	VCBO	V	IC=100μA,IE=0	60
Collector-Emitter Voltage	VCEO	V	IC=1mA,IB=0	40
Emitter-Base Voltage	VEBO	V	IE=100μA,IC=0	6
Collector Current -Continuous	IC	mA		600
Total Device Dissipation	PC	mW		200
Junction Temperature	Tj	°C		150
Storage Temperature	TSTG	°C		-55 to +150

■Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V _{CBO}	V	IC=100μA,IE=0	60		
Collector-emitter breakdown voltage	V _{CEO}	V	IC=1mA,IB=0	40		
Emitter-base breakdown voltage	V _{EBO}	V	IE=100μA,IC=0	6		
Collector cut-off current	I _{CBO}	nA	VCB=50V,IE=0			100
Collector cut-off current	I _{CEO}	nA	VCE=35V, IB=0			500
Emmitter cut-off current	I _{EBO}	nA	VEB=3V, IC=0			100
DC current gain	h _{FE1}		VCE=1V,IC=0.1mA	20		
	h _{FE2}		VCE=1V,IC=1mA	40		
	h _{FE3}		VCE=1V,IC=10mA	80		
	h _{FE4}		VCE=1V,IC=150mA	100		300
	h _{FE5}		VCE=2V,IC=500mA	40		
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=150mA,IB=15mA			0.4
Collector-emitter saturation voltage	V _{CE(sat)}	V	IC=500mA,IB=50mA			0.75
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=150mA,IB=15mA			0.95
Base-emitter saturation voltage	V _{BE(sat)}	V	IC=500mA,IB=50mA			1.2
Transition frequency	f _T	MHz	VCE=10V,IC=20mA,f=100MHz	250		
Delay time	t _d	ns	VCC=30V,IC=150mA, IB1=15mA,VBE(off)=2V			15
Rise time	t _r	ns				20
Storage time	t _s	ns				225
Fall time	t _f	ns				30



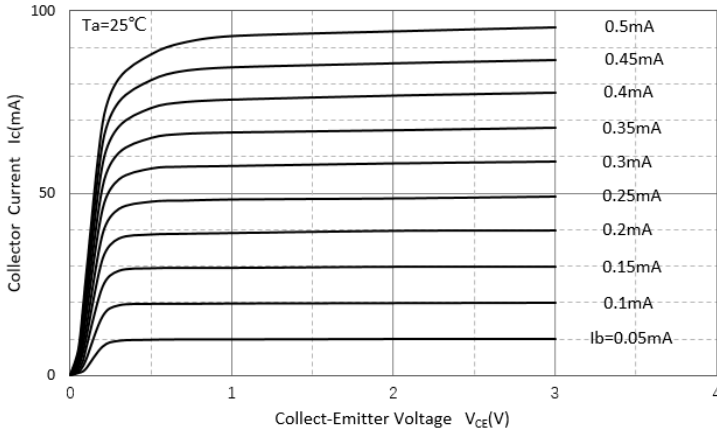
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Ordering Information (Example)

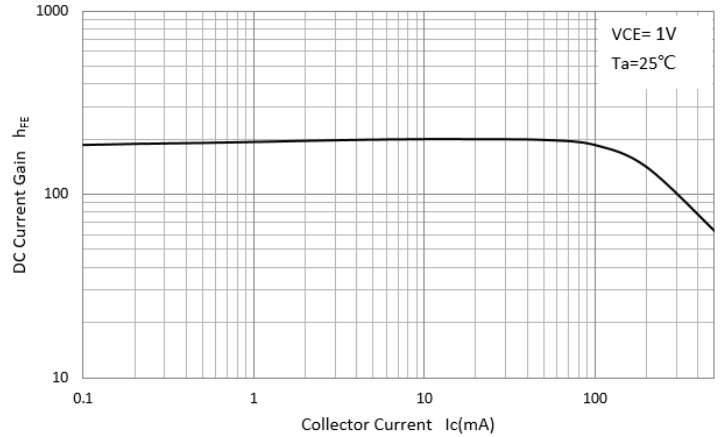
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMDT4401	F2	Approximate 0.009g	3000	30000	120000	7" reel

Characteristics (Typical)

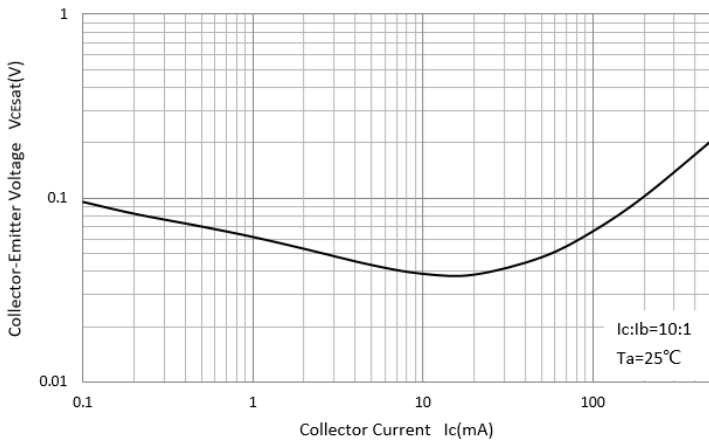
Static Characteristic



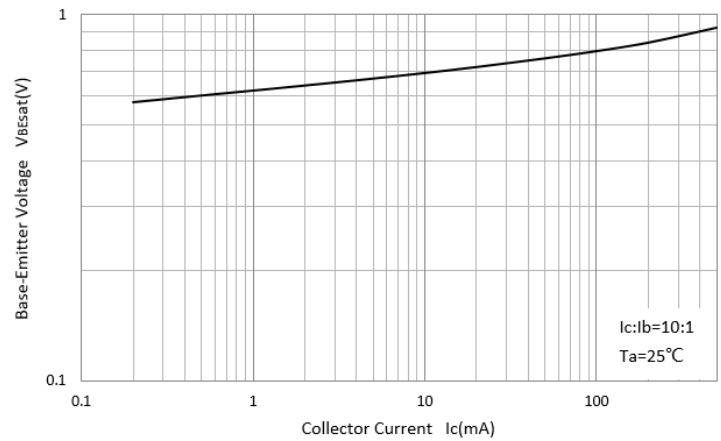
DC Current Gain



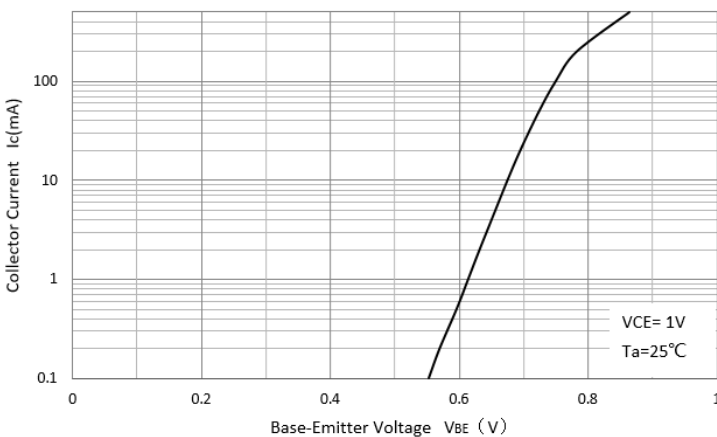
Collector-Emittor Saturation Voltage



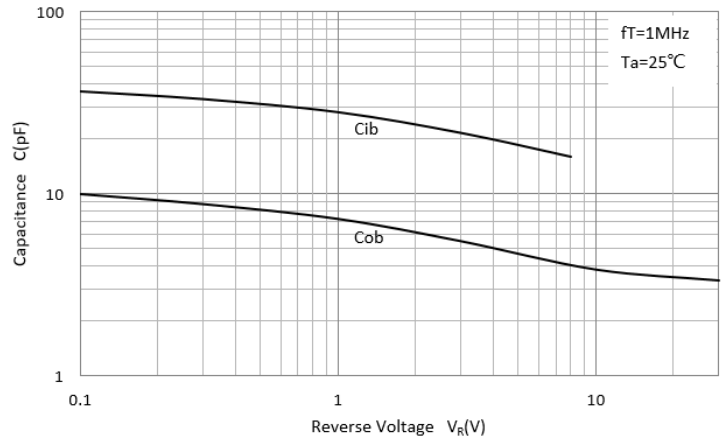
Base-Emittor Saturation Voltage



Base-Emittor On Voltage



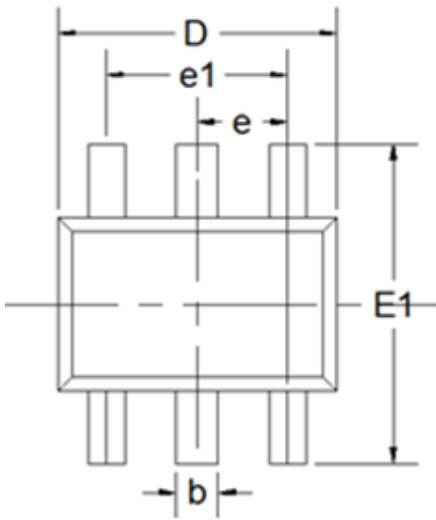
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



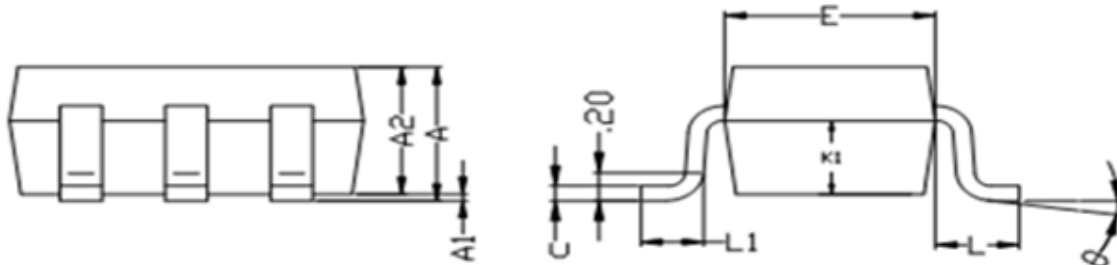


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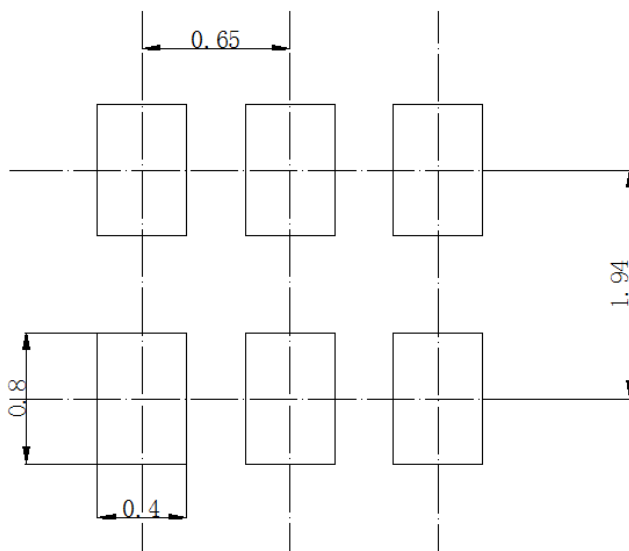
■SOT-363 Package Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.9	1.1
A1	0	0.004	0	0.1
A2	0.035	0.039	0.9	1
b	0.006	0.014	0.15	0.35
c	0.002	0.01	0.05	0.25
D	0.071	0.087	1.8	2.2
E	0.045	0.053	1.15	1.35
E1	0.085	0.096	2.15	2.45
e	0.026Typ		0.65Typ	
e1	0.047	0.055	1.2	1.4
L	0.021Typ		0.525Typ	
L1	0.01	0.018	0.26	0.46
φ	0°	8°	0°	8°



■SOT-363 Soldering Footprint



Unit: mm



MMDT4401

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