

Dual NPN+PNP Small Signal Transistor

SOT-363



Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- Moisture Sensitivity Level 1
- Part no. with suffix "Q" means AEC-Q101 qualified

Mechanical Data

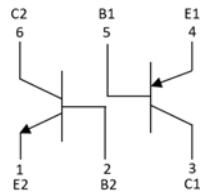
Package: SOT-363

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and > ESD22-B1 \$ 2

Marking: K27

Equivalent circuit



Ordering Information (Example)

MMDT2227Q	F2	Approximate \$. \$ \$ - g	3 \$ \$ \$	3 \$ \$ \$ \$	12 \$ \$ \$ \$	7 î reel



MMDT2227Q

TR1 PNP Pin3 4 5 Maximum Ratings (Ta=25 Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Collector-Base Voltage	V_{CBO}	V	$I_C = -10\mu A, I_E = 0$	-60
Collector-Emitter Voltage	V_{CEO}	V	$I_C = -10mA, I_B = 0$	-60
Emitter-Base Voltage	V_{EBO}	V	$I_E = -10\mu A, I_C = 0$	-5
Collector Current	I_C	mA		-600
Collector Power Dissipation (*)	P_C	mW		200
Thermal Resistance Junction to Ambient (*)	R_{thJA}	/W		625
Junction Temperature	T_J		-55 to +150	-55 to +150
Storage Temperature	T_{stg}			-55 to +150

TR2 NPN Pin1 2 6 Maximum Ratings (Ta=25 Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Collector-Base Voltage	V_{CBO}	V	$I_C = 10\mu A, I_E = 0$	75
Collector-Emitter Voltage	V_{CEO}	V	$I_C = 10mA, I_B = 0$	40
Emitter-Base Voltage	V_{EBO}	V	$I_E = 10\mu A, I_C = 0$	6
Collector Current	I_C	mA		600
Collector Power Dissipation	P_C (*)	mW		200
Thermal Resistance Junction to Ambient	R_{thJA} (*)	/W		625

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TR1 PNP Pin3 4 5 Electrical Characteristics (Ta=25 unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN.	TYP.	MAX.
Collector-base bq	5	2	Ce n o			Co #



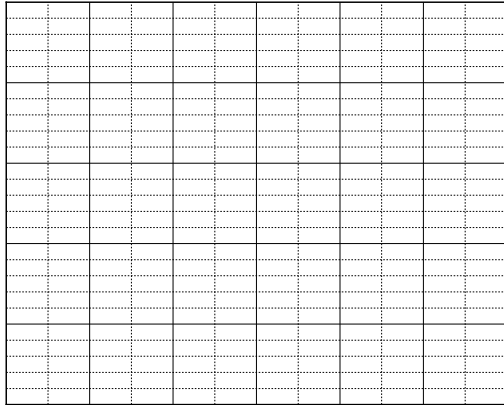
MMDT2227Q

TR2 NPN Pin1 2 6 Electrical Characteristics (Ta=25 unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN.	TYP.	MAX.
Collector-base breakdown voltage	V_{CBO}	V	$I_C = 10\mu A, I_E = 0$	75		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C = 10mA, I_B = 0$	40		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E = 10\mu A, I_C = 0$	6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB} = 60V, I_E = 0$			10
Collector cut-off current	I_{CEX}	nA	$V_{CE} = 60V, V_{EB(off)} = 3V$			10
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB} = 3V, I_C = 0$			10
Base cut-off Current	I_{BL}	nA	$V_{CE} = 60V, V_{EB(off)} = 3V$			20
DC current gain	h_{FE1}		$V_{CE} = 10V, I_C = 0.1mA$	35		
	h_{FE2}		$V_{CE} = 10V, I_C = 1mA$	50		
	h_{FE3}		$V_{CE} = 10V, I_C = 10mA$	75		
	h_{FE4}		$V_{CE} = 10V, I_C = 150mA$	100		300
	h_{FE5}		$V_{CE} = 1V, I_C = 150mA$	35		
	h_{FE6}		$V_{CE} = 10V, I_C = 500mA$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C = 150mA, I_B = 15mA$			0.3
			$I_C = 500mA, I_B = 50mA$			1
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C = 150mA, I_B = 15mA$			1.2
			$I_C = 500mA, I_B = 50mA$			2
Transition frequency	f_T	MHz	$V_{CE} = 20V, I_C = 20mA,$ $f = 100MHz$	300		
Delay time	t_d	ns	$V_{CC} = 30V, I_C = 150mA,$ $I_{B1} = 15mA, V_{BE(off)} = -0.5V$			10
Rise time	t_r	ns				25
Storage time	t_s	ns	$V_{CC} = 30V, I_C = 150mA,$ $I_{B1} = I_{B2} = 5mA$			225
Fall time	t_f	ns				60



TR1 PNP Pin3 4 5 Characteristics (Typical)



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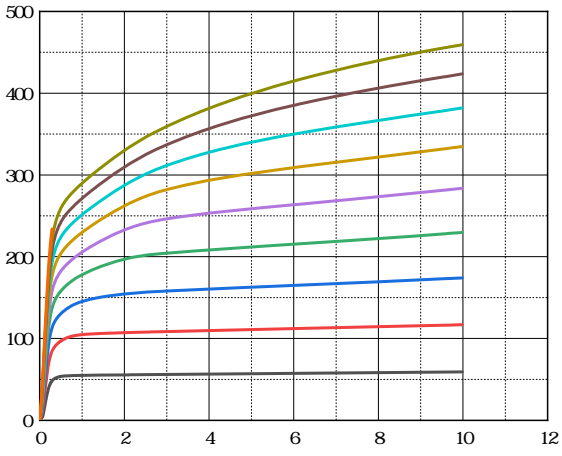
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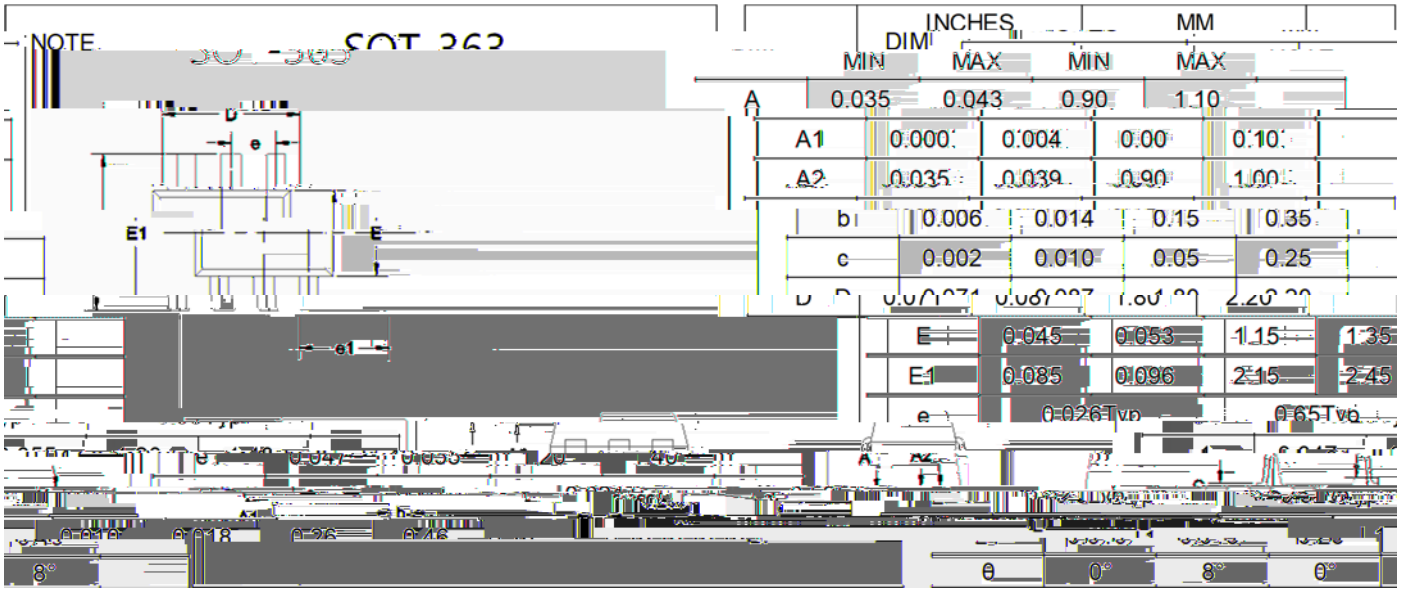
TR2 NPN Pin1 2 6 Characteristics (Typical)



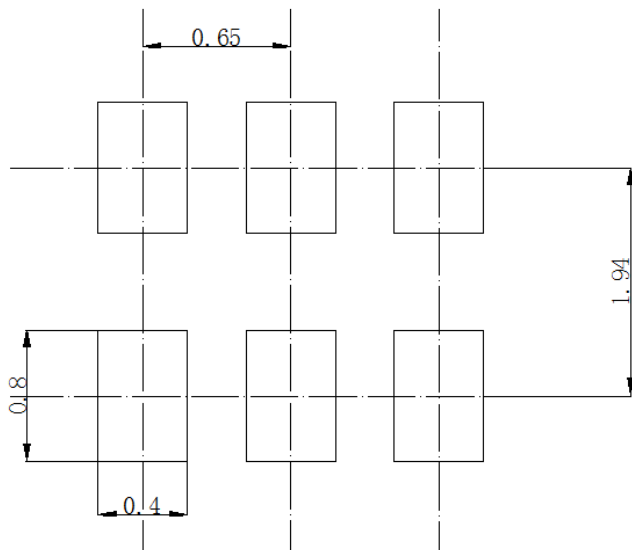


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SOT-363 Package Outline Dimensions



SOT-363 Soldering Footprint



Unit mm



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