

MMDT2907AQ

DUAL PNP GENERAL PURPOSE SWITCHING TRANSISTOR

VOLTAGE 60 Volt **POWER** 150 mW

FEATURES

- PNP epitaxial silicon, planar design
- Collector-emitter voltage $V_{CE} = -60V$
- Collector current $I_C = -600mA$
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-363
- Terminals : Solderable per MIL-STD-750,Method 2026
- Apporx. Weight: 0.0002 ounces, 0.006 grams
- Marking: M7Q

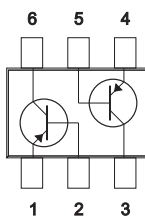
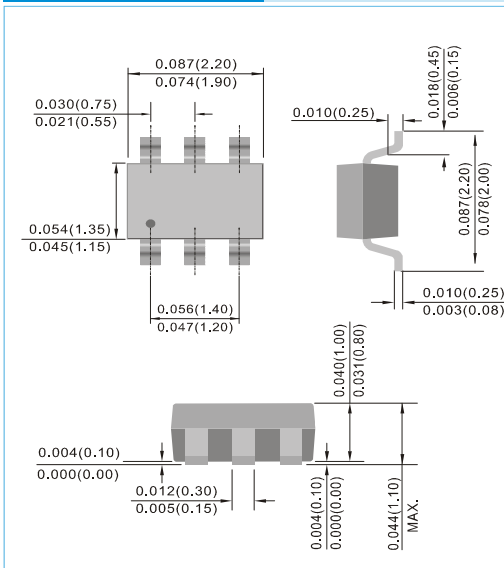


Fig.53

SOT-363

Unit : inch(mm)



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Collector-Emitter Voltage	V_{CEO}	-60	V
Collector-Base Voltage	V_{CBO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	-600	mA

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	830	°C / W
Storage Temperature	T_{STG}	-55 to +150	°C
Junction Temperature	T_J	-55 to +150	°C

Note 1 : Transistor mounted on FR-5 board 1.0 x 0.75 x 0.062 in.

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ELECTRICAL CHARACTERISTICS (T_j=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	V _(BR) CEO	I _C =-10mA, I _B =0	-60	-	-	V
Collector-Base Breakdown Voltage	V _(BR) CBO	I _C =-10μA, I _E =0	-60	-	-	V
Emitter-Base Breakdown Voltage	V _(BR) EBO	I _E =-10μA, I _C =0	-5.0	-	-	V
Base Cutoff Current	I _{BL}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
Collector Cutoff Current	I _{CEX}	V _{CE} =-30V, V _{EB} =-0.5V	-	-	-50	nA
	I _{CBO}	V _{CB} =-50V, I _E =0	-	-	-10	nA
		V _{CB} =-50V, I _E =0 T _j =125°C	-	-	-10	μA
DC Current Gain	h _{FE}	I _C =-0.1mA, V _{CE} =-10V I _C =-1.0mA, V _{CE} =-10V I _C =-10mA, V _{CE} =-10V I _C =-150mA, V _{CE} =-10V I _C =-500mA, V _{CE} =-10V	75 100 100 100 50	- - - - -	- - - 300 -	-
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =-150mA, I _B =-15mA I _C =-500mA, I _B =-50mA	- -	- -	-0.4 -1.6	V
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =-150mA, I _B =-15mA I _C =-500mA, I _B =-50mA	- -	- -	-1.3 -2.6	V
Collector-Base Capacitance	C _{CBO}	V _{CB} =-10V, I _E =0, f=1MHz	-	-	8.0	pF
Emitter-Base Capacitance	C _{EBO}	V _{CB} =-2V, I _C =0, f=1MHz	-	-	30	pF
Current Gain-Bandwidth Product	F _T	I _C =-50mA, V _{CE} =-20V, f=100MHz	200	-	-	MHz
Turn-On Time	t _{on}	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	45	ns
Delay Time	t _d	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	20	ns
Rise Time	t _r	V _{CC} =-30V, V _{BE} =-0.5V, I _C =-150mA, I _B =-15mA	-	-	40	ns
Turn-Off Time	t _{off}	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	250	ns
Storage Time	t _s	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	230	ns
Fall Time	t _f	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA	-	-	30	ns

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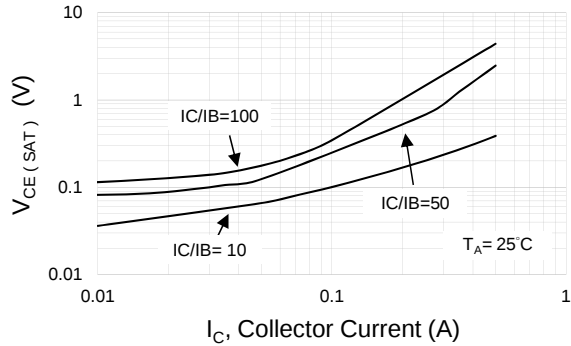


Fig.1 Typical Collector-Emitter Saturation Voltage

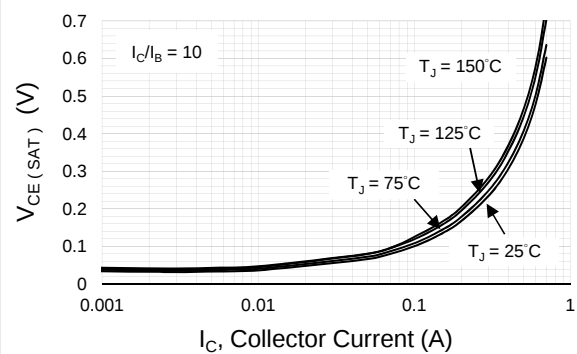


Fig.2 Typical Collector-Emitter Saturation Voltage

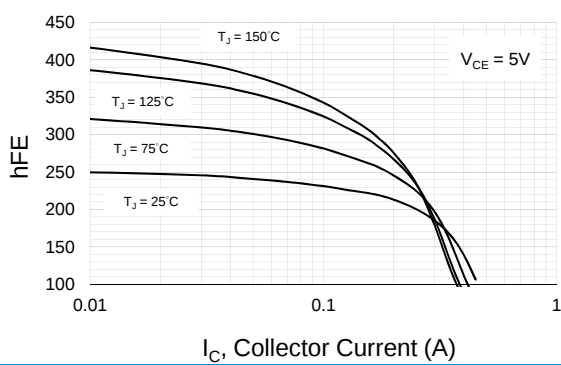


Fig.3 Typical DC Current Gain vs Collector Current

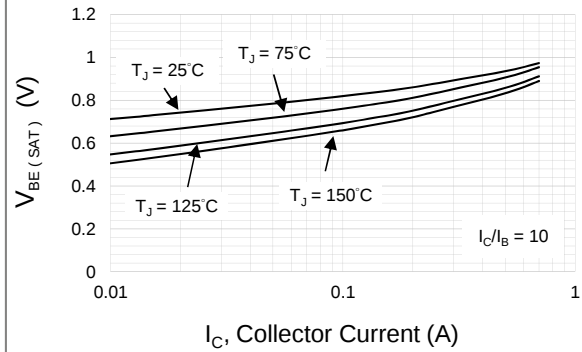


Fig.4 Typical Base-Emitter Saturation Voltage

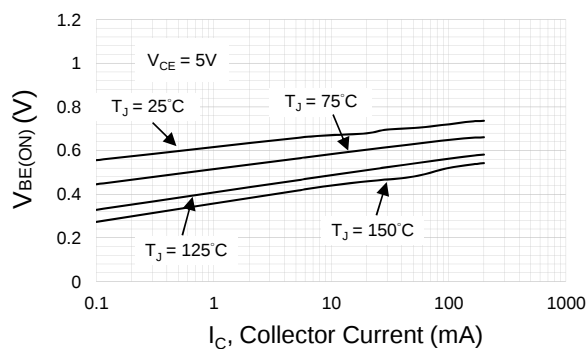


Fig.5 Typical Base - Emitter Voltage vs Collector Current

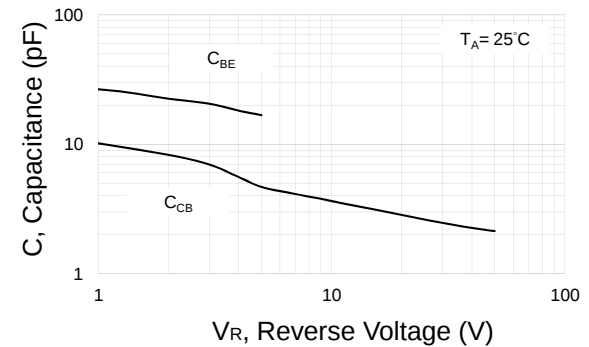
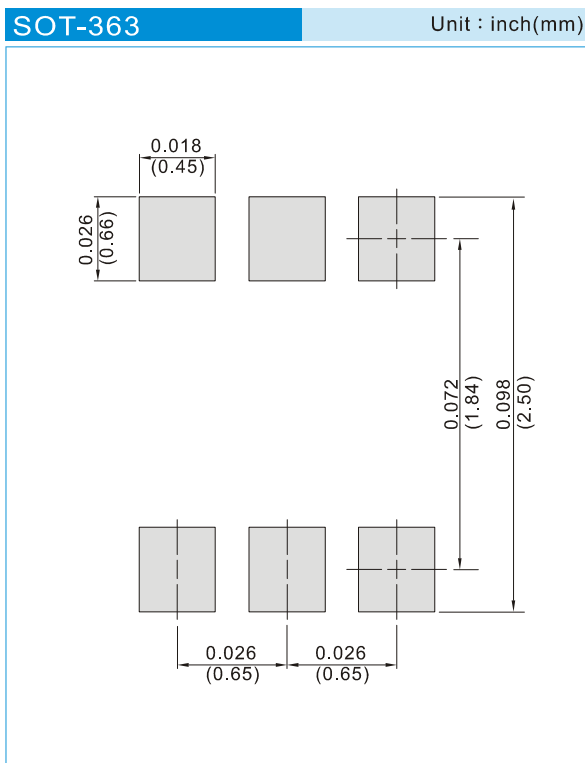


Fig.6 Typical Capacitance

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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

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Part No_packing code_Version

MMDT2907AQ_R1_00001

MMDT2907AQ_R2_00001

For example :

RB500V-40 - **R2** - **00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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