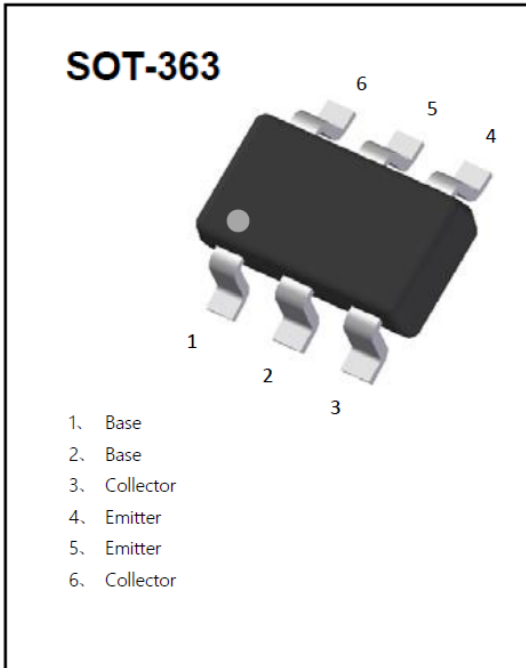


Dual NPN Small Signal Transistor



Features

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

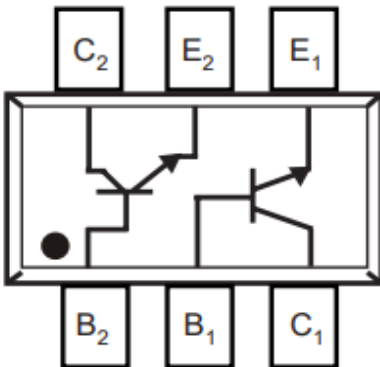
Application

- General-purpose switching and amplification

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K4A

■Equivalent circuit



■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
DMMT3904Q	F2	Approximate 0.009g	3000	30000	120000	7" reel



DMMT3904Q

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

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	60
Collector-Emitter Voltage	V_{CEO}	V	40
Emitter-Base Voltage	V_{EBO}	V	5
Collector Current	I_C	mA	200
Power Dissipation (*)	P_D	mW	200
Junction Temperature	T_j	°C	-55 to +150
Storage Temperature	T_{stg}	°C	-55 to +150

(*) Device mounted on FR-4 PCB 1.0 x 1.0 x 0.06 inch

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

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	60	-	-
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	40	-	-
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	5	-	-
Base Cutoff Current	I_{BL}	nA	$V_{CE}=30V, V_{EB(OFF)}=3V$	-	-	50
Collector Cutoff Current	I_{CEX}	nA	$V_{CE}=30V, V_{EB(OFF)}=3V$	-	-	50
DC current gain	h_{FE1}		$V_{CE}=1V, I_C=0.1mA$	40	-	-
	h_{FE2}		$V_{CE}=1V, I_C=1mA$	70	-	-
	h_{FE3}		$V_{CE}=1V, I_C=10mA$	100	-	300
	h_{FE4}		$V_{CE}=1V, I_C=50mA$	60	-	-
	h_{FE5}		$V_{CE}=1V, I_C=100mA$	30	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=1mA$	-	-	0.2
			$I_C=50mA, I_B=5mA$	-	-	0.3
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=10mA, I_B=1mA$	0.65	-	0.85
			$I_C=50mA, I_B=5mA$	-	-	0.95
Transition frequency	f_T	MHz	$I_C=10mA_{dc}, V_{CE}=20V_{dc}, f=100MHz$	300	-	-
Delay Time	t_d	ns	$V_{CC}=3.0V, V_{BE}=0.5V, I_C=10mA, I_{B1}=1.0mA$	-	-	35
Rise Time	t_r	ns		-	-	35
Storage Time	t_s	ns	$V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA$	-	-	200
Fall Time	t_f	ns		-	-	50



■ Characteristics (Typical)

Fig.1 - Static Characteristic

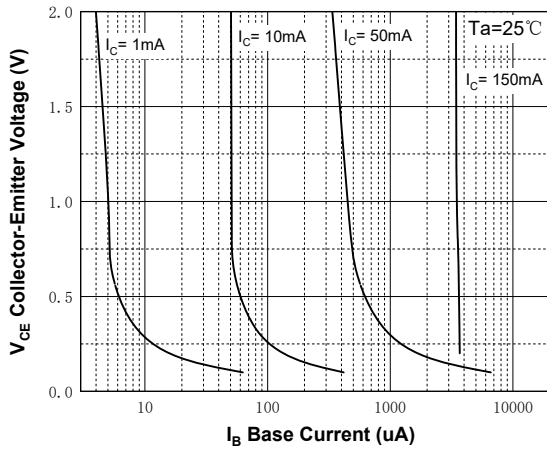


Fig.2 - DC Current Gain

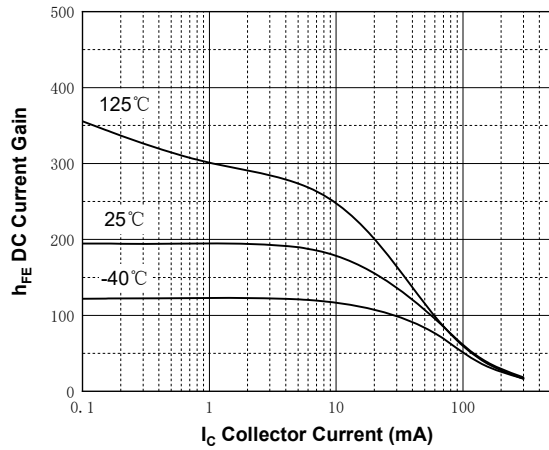


Fig.3 - Collector-Emitter Saturation Voltage

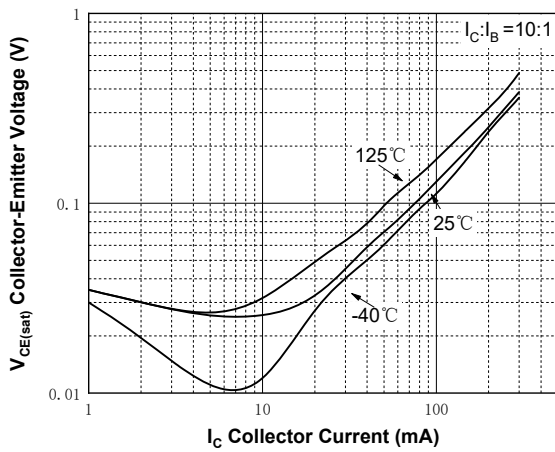


Fig.4 - Base-Emitter Saturation Voltage

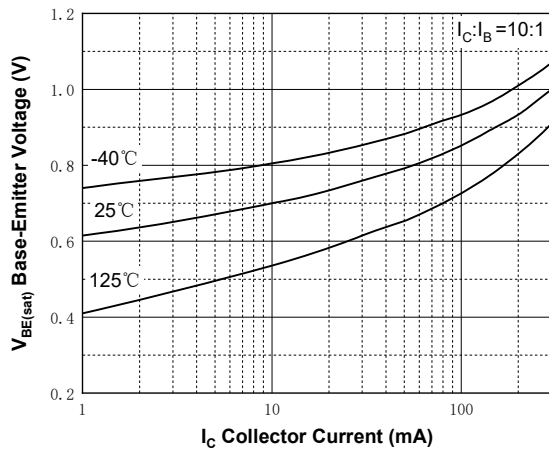
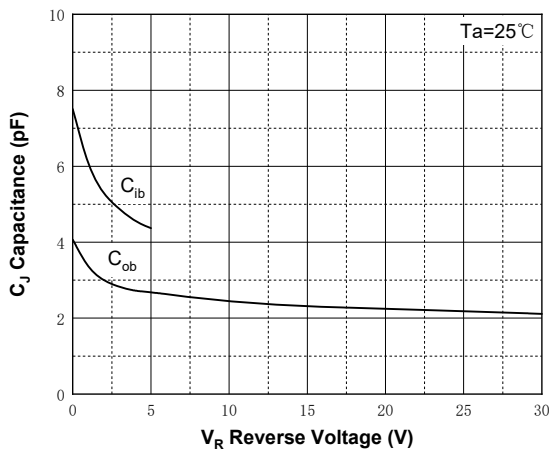


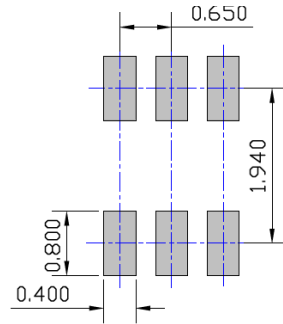
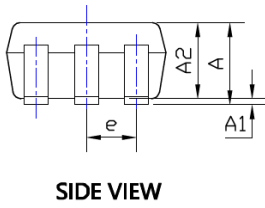
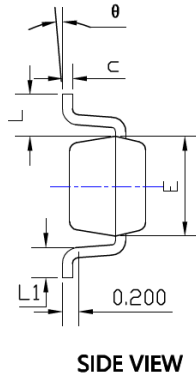
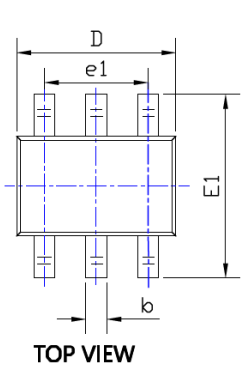
Fig.5 - Capacitance





DMMT3904Q

■SOT-363 Package Outline Dimensions & Suggested Pad Layout



UNIT: mm

SYMBOL	DIMENSIONS			
	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
theta	0°	8°	0°	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



DMMT3904Q

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