

2SD780/2SD780A TRANSISTOR (NPN)**FEATURES**

Power dissipation

 P_{CM} : 0.2 W ($T_{amb}=25^{\circ}C$)

Collector current

 I_{CM} : 0.3 A

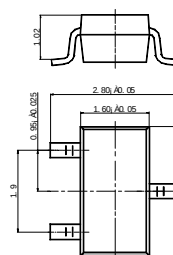
Collector-base voltage

 $V_{(BR)CBO}$: 60 V 2SD780 $V_{(BR)CBO}$: 80 V 2SD780A

Operating and storage junction temperature range

 T_J, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$ **SOT-23-3L**

1. BASE
2. EMITTER
3. COLLECTOR

**ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$ 2SD780 2SD780A	60 80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$ 2SD780 2SD780A	60 80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1mA, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1V, I_C=50mA$	110		400	
	$h_{FE(2)}$	$V_{CE}=2V, I_C=300mA$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=300mA, I_B=30mA$			0.6	V
Base-emitter voltage	V_{BE}	$V_{CE}=6V, I_C=10mA$	0.6		0.7	V
Transition frequency	f_T	$V_{CE}=6V, I_C=10mA$		140		MHz
Collector output capacitance	C_{ob}	$V_{CB}=6V, I_E=0, f=1MHz$		7		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank						
Range		110-180	135-220	170-270	200-320	250-400
Marking	2SD780	DW1	DW2	DW3	DW4	DW5
	2SD780A	D51	D52	D53	D54	D55