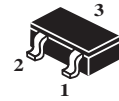
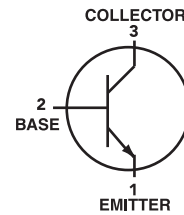


NPN Low Voltage Output Amplifiers

 **Lead(Pb)-Free**


SC-59
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	25	Vdc
Collector-Base Voltage	V_{CBO}	20	Vdc
Emitter-Base Voltage	V_{EBO}	12	Vdc
Collector Current-Continuous	I_C	500	mAdc
Collector Current-Peak	$I_{c(p)}$	1000	mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (1) $T_A=25^{\circ}\text{C}$ Derate above 25°C	P_D	200	mW
		1.6	$\text{mW}/^{\circ}\text{C}$
Junction Temperature	T_j	150	$^{\circ}\text{C}/\text{W}$
Storage, Temperature	T_{stg}	-55 to +150	$^{\circ}\text{C}$

DEVICE MARKING
MSD1328=1DR
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

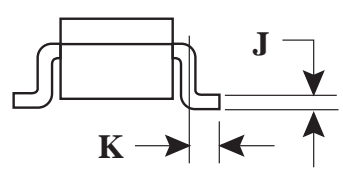
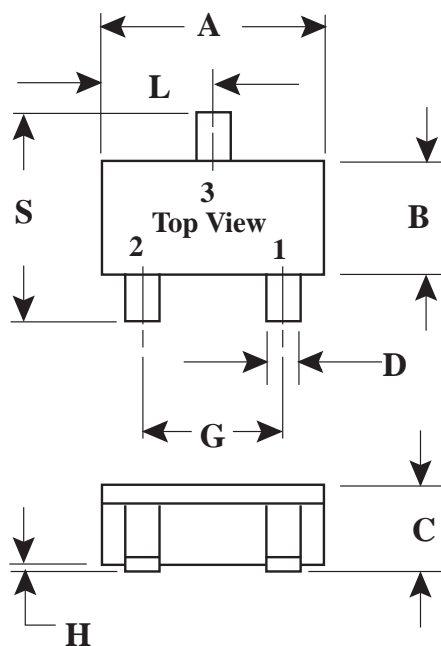
Collector-Emitter Breakdown Voltage ($I_C=-1.0\text{ mAdc}$, $I_B=0$)	$V_{(BR)CEO}$	20	-	Vdc
Collector-Base Breakdown Voltage ($I_C=10\text{ }\mu\text{Adc}$, $I_E=0$)	$V_{(BR)CBO}$	25	-	Vdc
Emitter-Base Breakdown Voltage ($I_E=10\text{ }\mu\text{Adc}$, $I_C=0$)	$V_{(BR)EBO}$	12	-	Vdc
Collector Cutoff Current ($V_{CB}=25\text{ Vdc}$, $I_E=0$)	I_{CBO}	-	-0.1	μAdc
DC Current Gain ⁽¹⁾ ($V_{CE}=2.0\text{ Vdc}$, $I_C=500\text{ mAdc}$)	h_{FE}	200	350	
Collector-Emitter Saturation Voltage ($I_C=500\text{ mVdc}$, $I_B=20\text{ mAdc}$)	$V_{CE(sat)}$	-	0.4	Vdc
Base-Emitter Saturation Voltage ($I_C=500\text{ mVdc}$, $I_B=50\text{ mAdc}$)	$V_{BE(sat)}$	-	1.2	Vdc

Note:

1. Pulse Test: Pluse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

SC-59 Outline Dimension

Unit:mm



SC-59		
Dim	Min	Max
A	2.70	3.10
B	1.30	1.70
C	1.00	1.30
D	0.35	0.50
G	1.70	2.30
H	0.00	0.10
J	0.10	0.26
K	0.20	0.60
L	1.25	1.65
S	2.25	3.00
All Dimension in mm		