

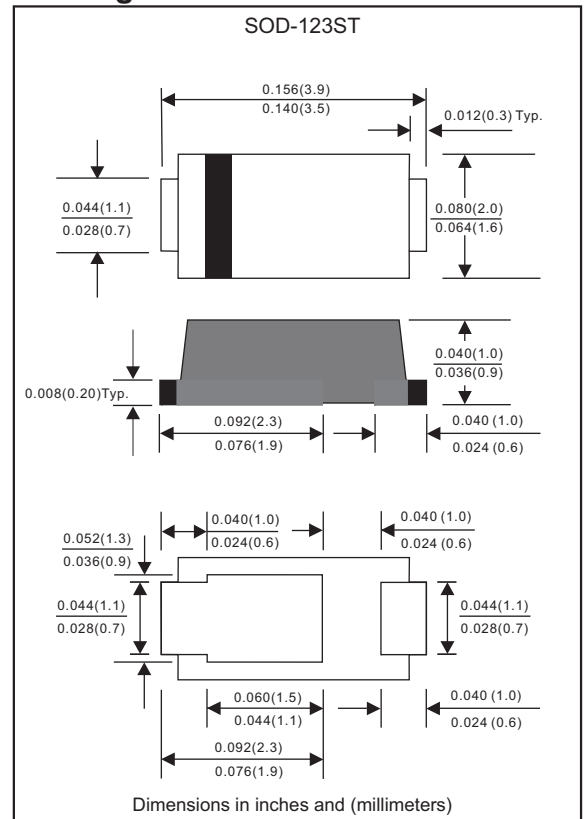
Features

- Well package design with solder pad on the bottom for best thermal performance
- Low profile surface mounted application in order to optimize board space
- Tiny plastic SMD package
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet RoHS requirements
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123ST / MINI SMA
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	AS240-MST-Q1	AS260-MST-Q1	AS2100-MST-Q1	AS2150-MST-Q1	AS2200-MST-Q1	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	40	60	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	42	70	105	140	V
Maximum continuous reverse voltage	V_R	40	60	100	150	200	V
Maximum average forward rectified current	I_O	2.0					A
Non-repetitive peak forward surge current 8.3ms single half sine-wave	I_{FSM}	50					A
Typical junction capacitance (Note 1)	C_J	110	80	60	45	35	pF
Operating junction temperature range	T_J	-55 to +125		-55 to +150			$^\circ\text{C}$
Storage temperature range	T_{STG}	-65 to +175					$^\circ\text{C}$

Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	AS240-MST-Q1	AS260-MST-Q1	AS2100-MST-Q1	AS2150-MST-Q1	AS2200-MST-Q1	UNITS
Maximum instantaneous forward voltage at $I_F=2.0\text{A}$	V_F	0.50	0.70	0.85	0.90	0.92	Volts
Maximum reverse leakage current at rated V_R	I_R	0.5			20		mA mA

Thermal characteristics

PARAMETER	SYMBOLS	AS240-MST-Q1	AS260-MST-Q1	AS2100-MST-Q1	AS2150-MST-Q1	AS2200-MST-Q1	UNITS
Typical thermal resistance junction to ambient (Note 2)	$R_{\theta JA}$	70					$^\circ\text{C} / \text{W}$
Typical thermal resistance junction to case (Note 2)	$R_{\theta JC}$	30					$^\circ\text{C} / \text{W}$

Notes1: Measured at 1MHz and applied reverse voltage of 4.0V D.C
2: Mounted on FR-4 PCB copper, minimum recommended pad layout

Rating and characteristic curves (AS240-MST-Q1 THRU AS2200-MST-Q1)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

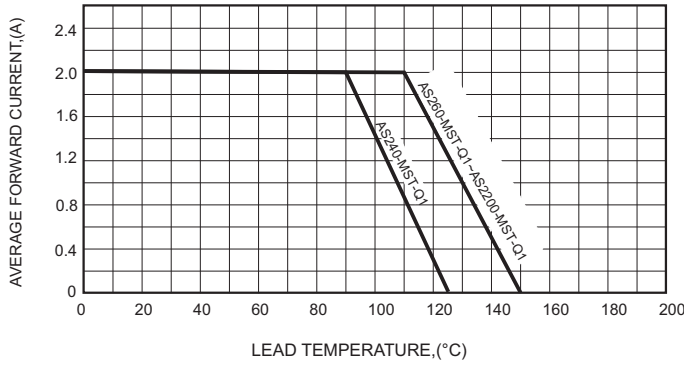


FIG.2-TYPICAL FORWARD CHARACTERISTICS

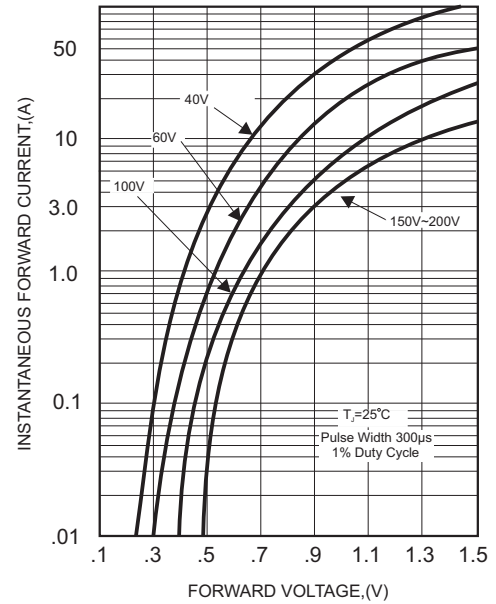


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

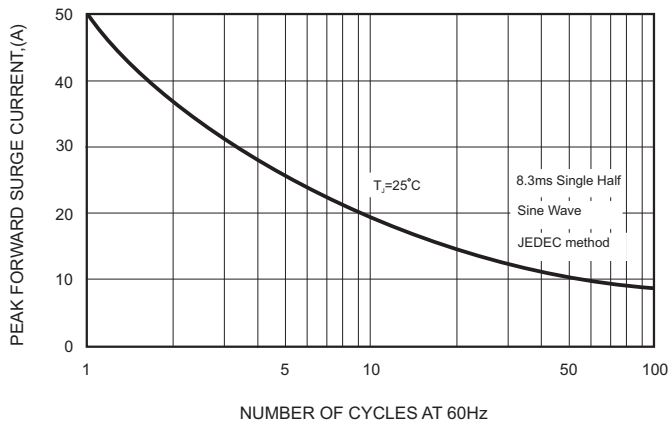


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

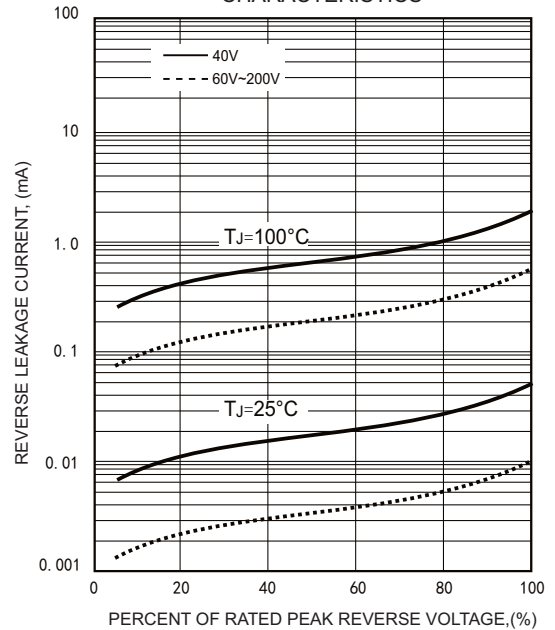
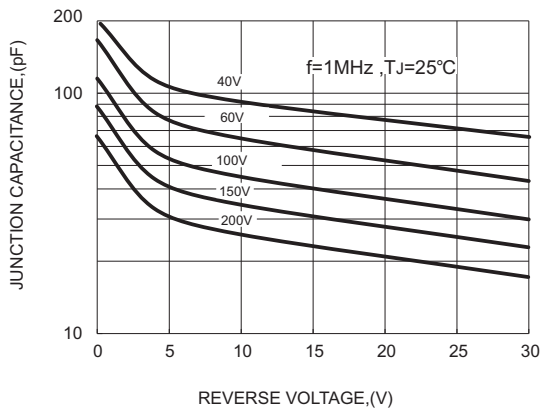




FIG.4-TYPICAL JUNCTION CAPACITANCE



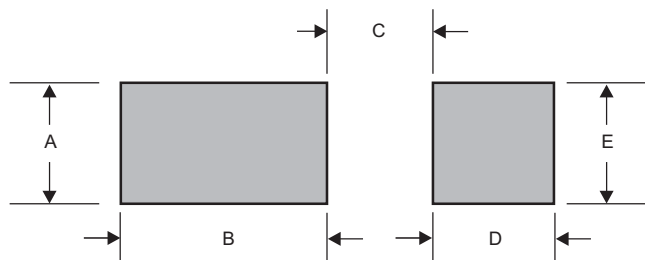
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
AS240-MST-Q1	24
AS260-MST-Q1	26
AS2100-MST-Q1	20
AS2150-MST-Q1	215
AS2200-MST-Q1	220

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D	E
SOD-123ST	0.060 (1.50)	0.095 (2.40)	0.020 (0.50)	0.044 (1.10)	0.049 (1.25)