AS340-MST-Q1 THRU AS3200-MST-Q1

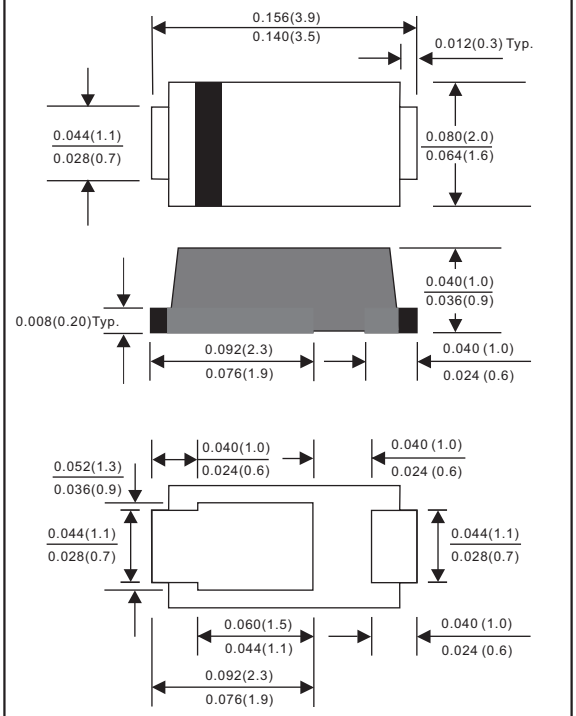
3.0A Surface Mount Schottky Barrier Rectifiers 40V-200V

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

Package outline

SOD-123ST



Dimensions in inches and (millimeters)

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

Maximum ratings (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	AS340-MST-Q1	AS360-MST-Q1	AS3100-MST-Q1	AS3150-MST-Q1	AS3200-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	3.0					A
Non-repetitive peak forward surge current 8.3ms single half sine-wave	I_{FSM}	80		70			A
Typical junction capacitance (Note 1)	C_J	150	110	70	75	65	pF
Operating junction temperature range	T_J	-55 to +125	-55 to +150				°C
Storage temperature range	T_{STG}	-65 to +175					°C

Electrical characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	AS340-MST-Q1	AS360-MST-Q1	AS3100-MST-Q1	AS3150-MST-Q1	AS3200-MST-Q1	UNITS
Maximum instantaneous forward voltage at I_F=3.0A	V_F	0.55	0.70	0.85	0.90	0.92	V
Maximum reverse leakage current T_J=25°C at rated V_R T_J=100°C	I_R	0.5 20		0.05 10	0.01 5		mA mA

Thermal characteristics

PARAMETER	SYMBOLS	AS340-MST-Q1	AS360-MST-Q1	AS3100-MST-Q1	AS3150-MST-Q1	AS3200-MST-Q1	UNITS
Typical thermal resistance junction to ambient (Note 2) Typical thermal resistance junction to case (Note 2)	$R_{\theta JA}$ $R_{\theta JC}$	58 26					°C/W °C/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 (AS340-MST-Q1 THRU AS3200-MST-Q1)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

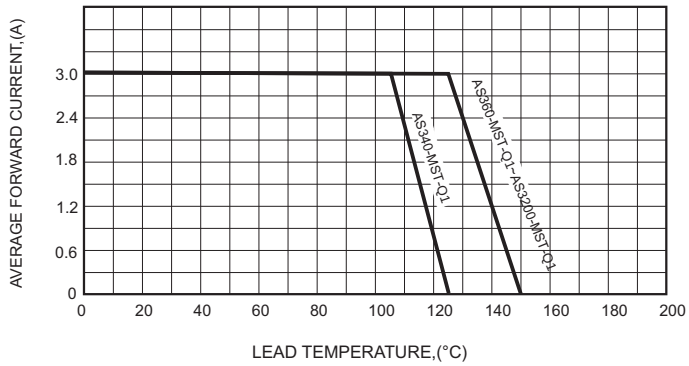


FIG.2-TYPICAL FORWARD CHARACTERISTICS

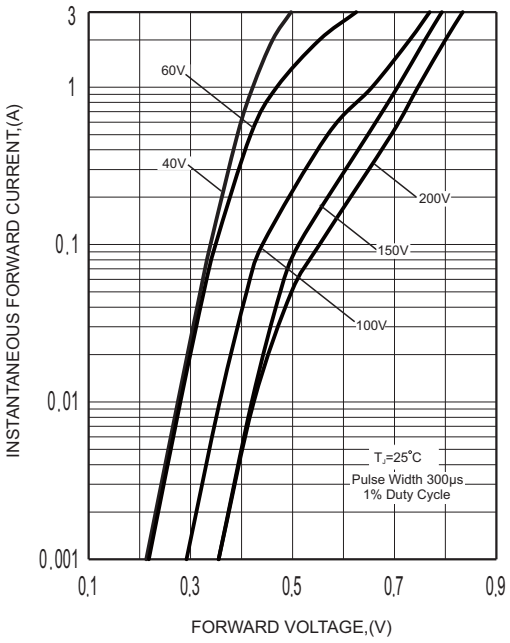


FIG.3A-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

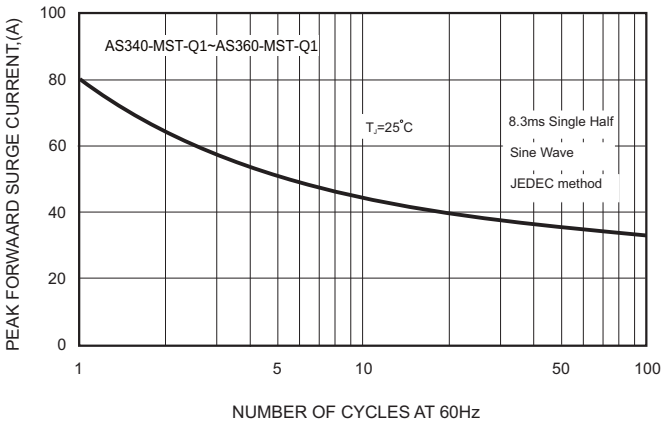


FIG.3B-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

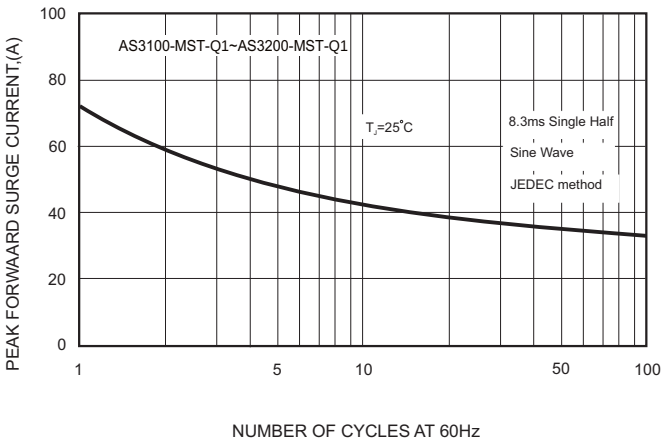
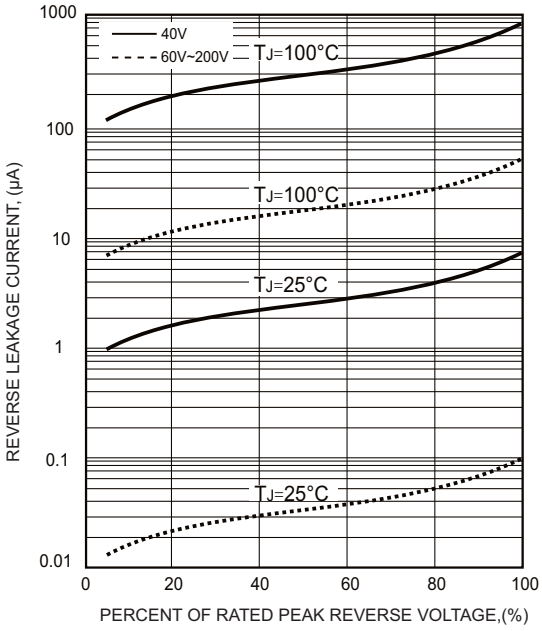


FIG.4 - TYPICAL REVERSE CHARACTERISTICS



Rating and characteristic curves (AS340-MST-Q1 THRU AS3200-MST-Q1)

FIG.5A-TYPICAL JUNCTION CAPACITANCE

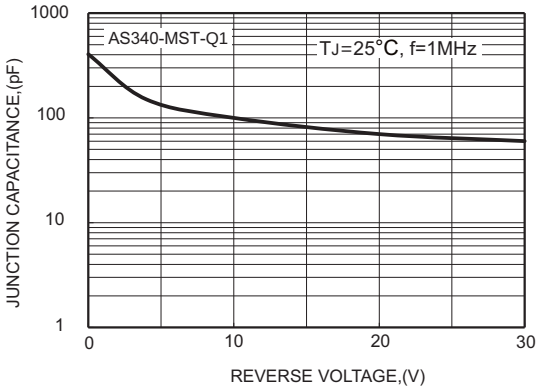


FIG.5B-TYPICAL JUNCTION CAPACITANCE

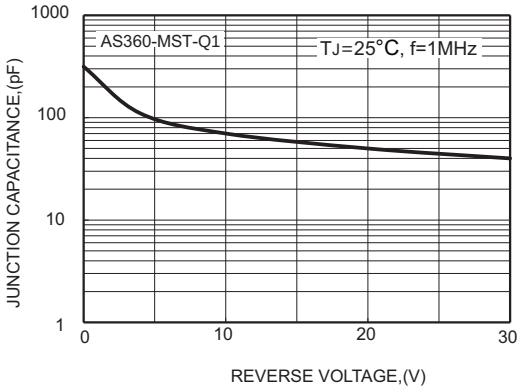


FIG.5C-TYPICAL JUNCTION CAPACITANCE

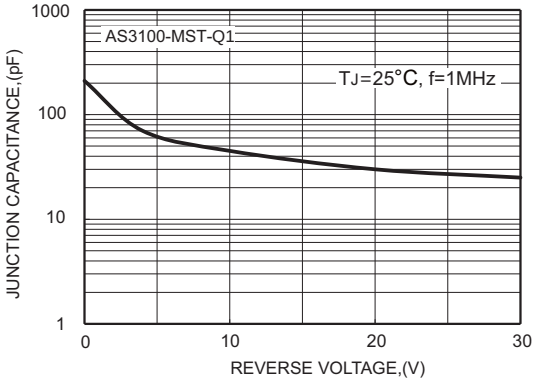


FIG.5D-TYPICAL JUNCTION CAPACITANCE

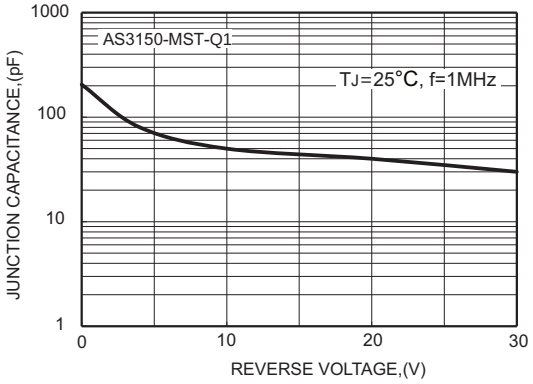
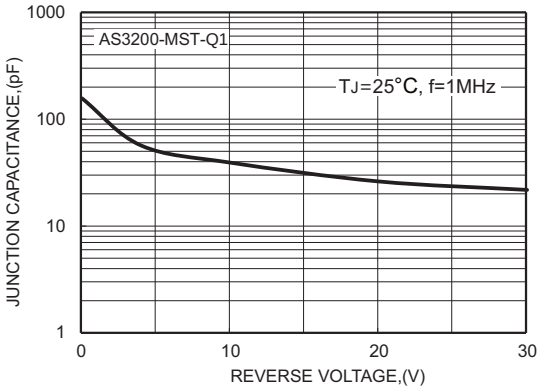


FIG.5E-TYPICAL JUNCTION CAPACITANCE



AS340-MST-Q1 THRU AS3200-MST-Q1

3.0A Surface Mount Schottky Barrier Rectifiers 40V-200V

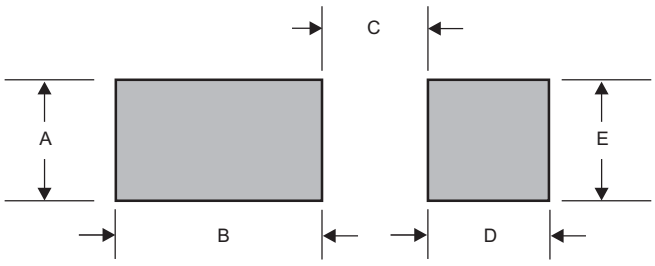
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
AS340-MST-Q1	34
AS360-MST-Q1	36
AS3100-MST-Q1	310
AS3150-MST-Q1	315
AS3200-MST-Q1	320

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)