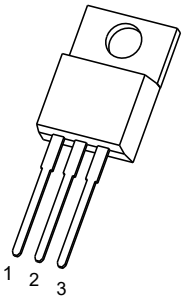
TO-220AB Plastic-Encapsulate Diodes

SCHOTTKY BARRIER RECTIFIER

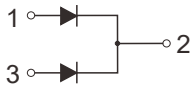
Features:

- Low Power Loss,High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

TO-220-3L



1. ANODE
2. CATHODE
3. ANODE



MAIN CHARACTERISTICS

I_O	40（2×20）A
V_{RRM}	100 V
T_j	150 ℃
$V_{F(typ)}$	0.68 V （@Tj=125℃）

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	KSR40100CT	Unit
V_{RRM}	Peak repetitive reverse voltage	100	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	70	V
I_O	Average rectified output current	40	A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	250	A
$R_{\Theta Jc}$	Thermal resistance from junction to case ,Tc=25℃	2.0	℃/W
$R_{\Theta JA}$	Thermal resistance from junction to ambient	62.5	℃/W
T_j	Junction temperature	150	℃
T_{stg}	Storage temperature	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=0.1mA		100			V
Reverse current	I_R	V_R=100V	Tj =25℃		10	100	uA
			Tj =125℃		10		mA
Forward voltage	V_F	I_F=10A	Tj =25℃		0.60		V
			Tj =125℃		0.55		V
		I_F=20A	Tj =25℃		0.72	0.82	V
			Tj =125℃		0.68		V

*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

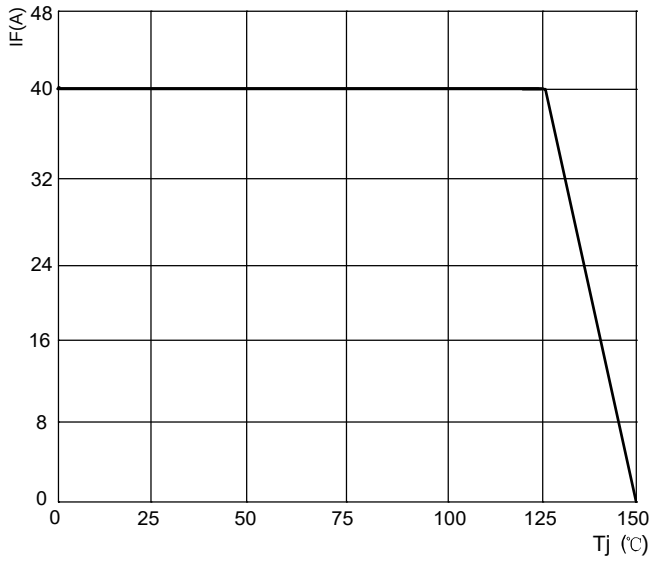


FIG.2: TYPICAL FORWARD CHARACTERISTICS

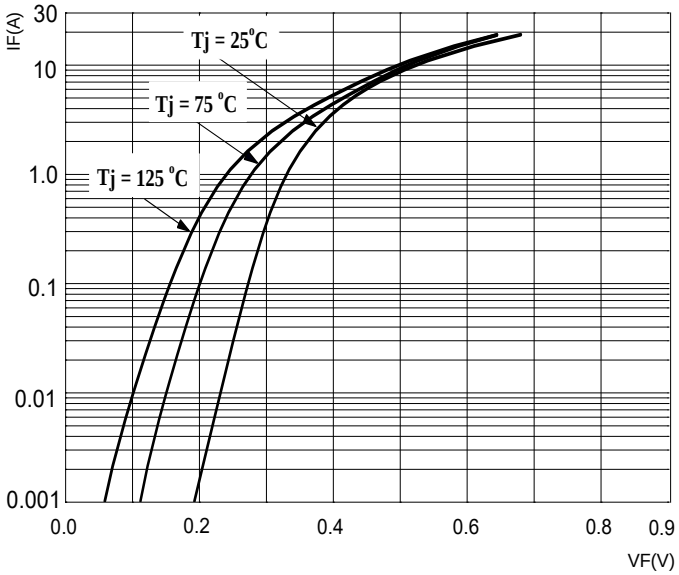


FIG.3: TOTAL CAPACITANCE DERATING CURVE

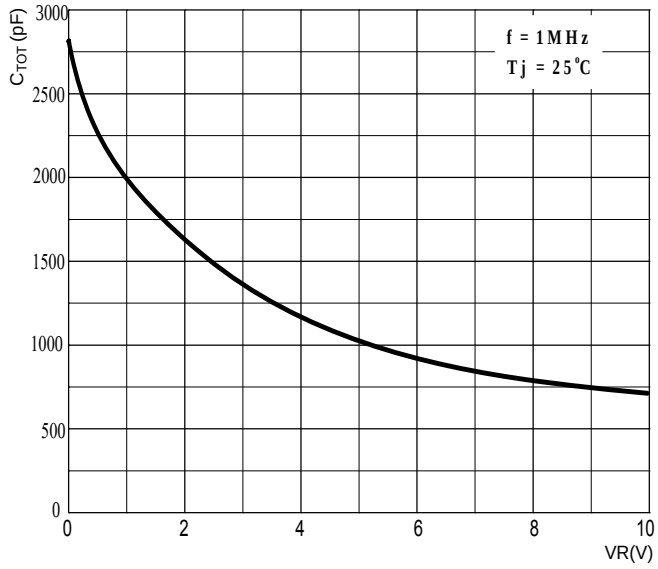
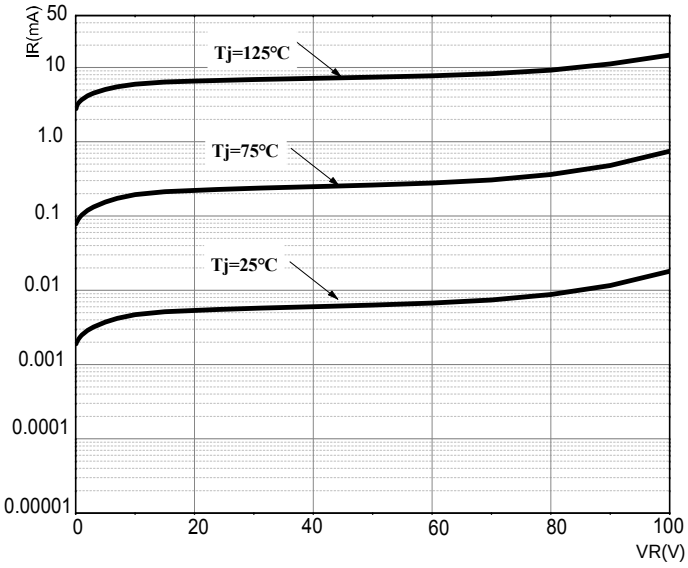
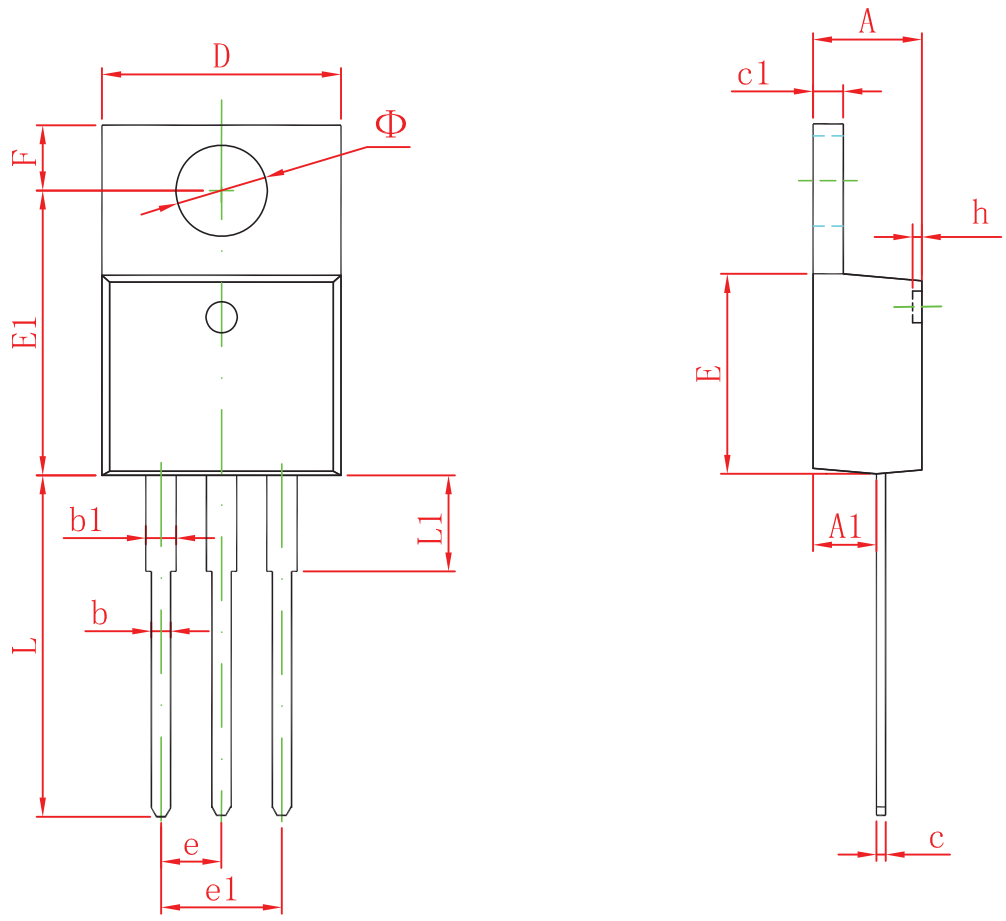


FIG.4: TYPICAL REVERSE CHARACTERISTICS



TO-220AB Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.450	4.750	0.175	0.187
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.300	0.500	0.012	0.020
c1	1.170	1.370	0.046	0.054
D	9.830	10.330	0.387	0.407
E	8.500	8.900	0.335	0.350
E1	12.050	12.650	0.474	0.498
e	2.540 TYP		0.100 TYP	
e1	4.900	5.200	0.192	0.205
F	2.540	2.940	0.100	0.116
h	0.100 TYP		0.004 TYP	
L	13.300	13.800	0.523	0.543
L1	3.540	3.940	0.139	0.155
Φ	3.735	3.935	0.147	0.155