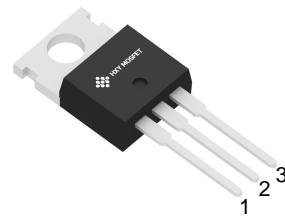


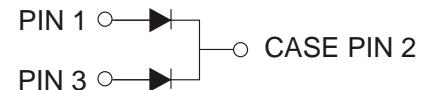


## Features

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



**TO-220C(TO-220AB)**



## Maximum Ratings (Ta=25 °C unless otherwise noted)

Symbol	Parameter	Limit	Unit
$V_{RRM}$	Peak repetitive reverse voltage	45	V
$V_{RWM}$	Working peak reverse voltage		
$V_R$	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	31.5	V
$I_o$	Average rectified output current	10	A
$I_{FSM}$	Non-Repetitive peak forward surge current (8.3ms half sine wave)	120	A
$R_{\Theta JC}$	Thermal resistance from junction to case, $T_c=25^\circ C$	2.0	°C/W
$R_{\Theta JA}$	Thermal resistance from junction to ambient	62.5	°C/W
$T_j$	Junction temperature	150	°C
$T_{stg}$	Storage temperature	-55~+150	°C

## Electrical Characteristics(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=0.1mA$	45			V
Reverse current	$I_R$	$V_R=45V$	$T_j = 25^\circ C$	20	100	uA
			$T_j = 125^\circ C$	20		mA
Forward voltage	$V_F$	$I_F=3A$	$T_j = 25^\circ C$	0.46		V
			$T_j = 125^\circ C$	0.4		V
		$I_F=5A$	$T_j = 25^\circ C$	0.52	0.6	V
			$T_j = 125^\circ C$	0.48		V

\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2.0\%$ .



## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

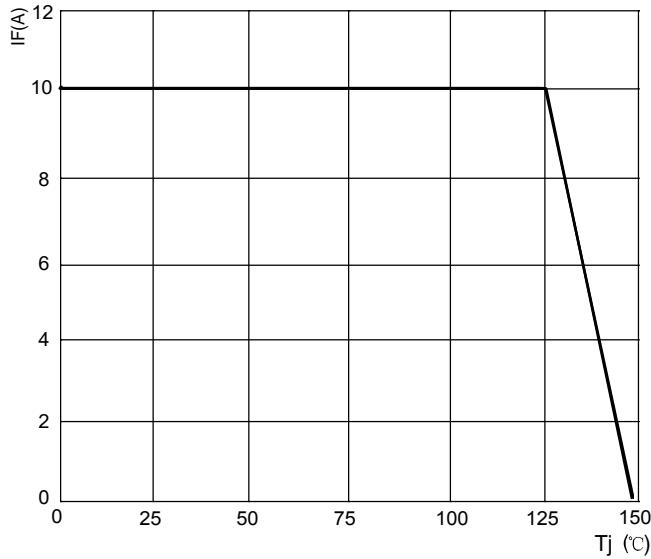


FIG.2: TYPICAL FORWARD CHARACTERISTICS

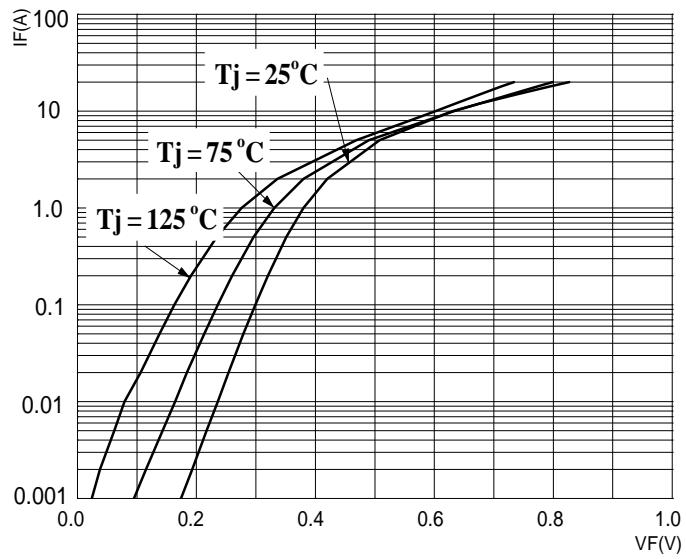


FIG.3: TOTAL CAPACITANCE DERATING CURVE

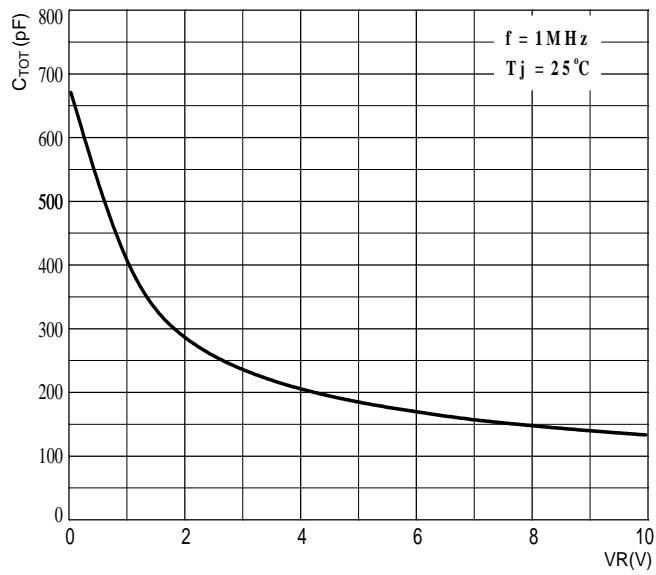
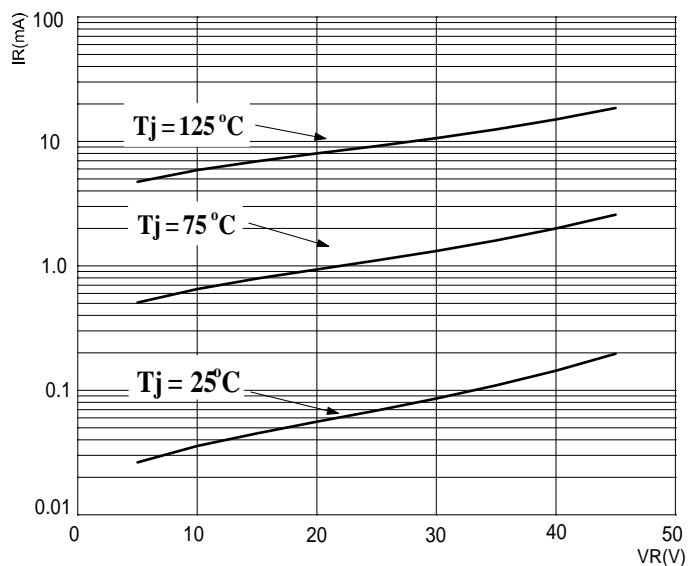
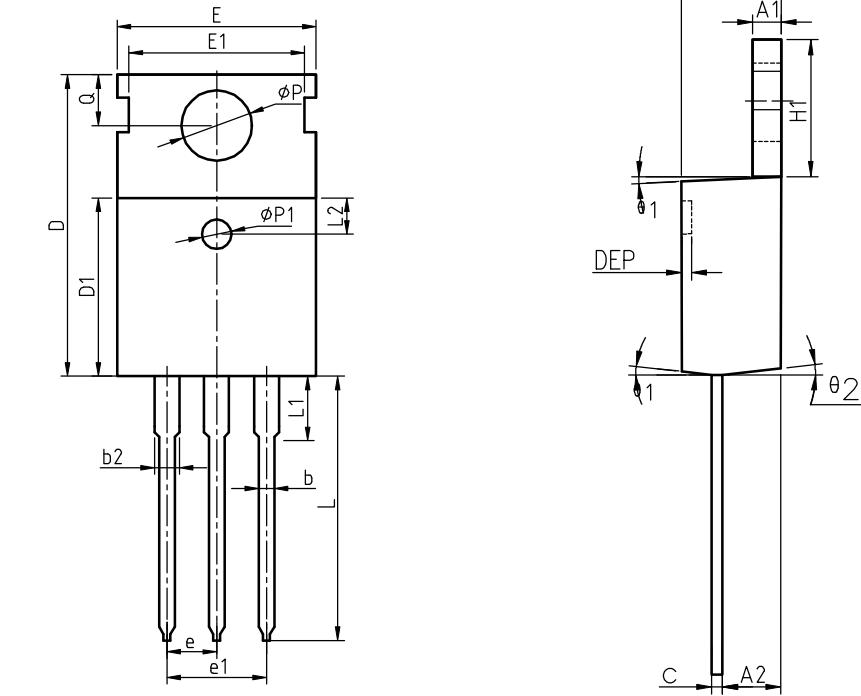


FIG.4: TYPICAL REVERSE CHARACTERISTICS





**Package Information**  
**TO-220C(TO-220AB)**



COMMON DIMENSIONS

SYMBOL	MIN	NOM	MAX	MIN	NOM	MAX
A	4.40	4.57	4.70	0.173	0.180	0.185
A1	1.27	1.30	1.33	0.050	0.051	0.052
A2	2.35	2.40	2.50	0.093	0.094	0.098
b	0.77	0.80	0.90	0.030	0.031	0.035
b2	1.17	1.27	1.36	0.046	0.050	0.054
c	0.48	0.50	0.56	0.019	0.020	0.022
D	15.40	15.60	15.80	0.606	0.614	0.622
D1	9.00	9.10	9.20	0.354	0.358	0.362
DEP	0.05	0.10	0.20	0.002	0.004	0.008
E	9.80	10.00	10.20	0.386	0.394	0.402
E1	-	8.70	-	-	0.343	-
E2	9.80	10.00	10.20	0.386	0.394	0.402
e		2.54	BSC		0.100	BSC
e1		5.08	BSC		0.200	BSC
H1	6.40	6.50	6.60	0.252	0.256	0.260
L	12.75	13.50	13.65	0.502	0.531	0.537
L1	-	3.10	3.30	-	0.122	0.130
L2		2.50	REF		0.098	REF
P	3.50	3.60	3.63	0.138	0.142	0.143
P1	3.50	3.60	3.63	0.138	0.142	0.143
Q	2.73	2.80	2.87	0.107	0.110	0.113
θ1	5°	7°	9°	5°	7°	9°
θ2	1°	3°	5°	1°	3°	5°
θ3	1°	3°	5°	1°	3°	5°



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